

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0776

Collector:

System No:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

95814-5006

CA

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / December 2012

Billing Agency: RHB

Samples Received by Lab: 12/18/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0776-01	Sample ID: R 96103 Sample Type: Seawater	Time Collected: 12/17/2012	11:34 Sampling Point	: Songs A
K-40	EPA 901,1	332 +/- 18.1	64.4	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
Drinking Water and Radiation Laboratory Branch 850 Marina Bay Parkway, G164	Date Received Lab No. (Leave Blank)
Richmond, CA 94804 510 - 620 - 2930	Date & Time Sampled _Serial Number _
510-620-2911 Attn: Shiyamalie Rubera	112/17/12 1134 R 96103
Collector Information	Reporting Information
Name: Jenny Smith	Name: Steve HSU
Dept./Branch: MBC Applied Environmental Science Address: 3000 Red Hui Are.	Address PO Rox Oct 7010 MS 7600
Costa Mesa, Ca. 912626	Address: PO Box 99-7414 MS 7610 Sacramento ca 95899
Telephone No. 714 - 850 - 4830 Sample Information	Billing Agency
System Name / Facility: SONGS	DWFOB() TRHB RWQCB() DTSC
Sampling Point (s):	DOWNTPB DFDB DWR CCOFG
System No.:	EMB D Øther (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater	Surface Water
☐ Raw ☐ Water Treatment Plant (WTP)	Distribution System
- T.	
	Seawater
Finishing:	☐ Milk ☐ Soil/Sediment
Starting:	☐ Wipes ☐ Biota (Type);
Net (M³)	Radon Canister
Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	ced/Frozen: Other:
☐ Field Measurement:mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory appr	al)
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
☐ Gross Alpha ☐ Gross Beta	Gamma Scan
☐ Total Uranium ☐ Total Beta	
☐ Total Radium ☐ Tritium (³H	· ·
□ Radium-226 □ Carbon-14	
☐ Radium-228 ☐ Iodine-131	
□ Radon-222 □ Strontium-	
Other (Specify); Nickel-63 CHAIN OF CUSTODY	□ Iron-55
1. 12/17/12 tenny Smith	12/17/12
Date Name (Print)	Date
Time Custody Received Organization	Time Custody Released
2. Date Name (Print)	Date
	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
3. 12-18-12 UA	*Signature Time Custody Released
Date 1:30 Name (Print) DWRLB	Date Date
Time Custody Received Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank) 4 0.01 A A. Condition at Time of Receipt: Broken Container Holding Time Exceeded Sample Not Cooled B. Preservatives/Carriers:	U Leaked in Transit ☐ Improper Container ☐ Insufficient Sample
☐ Added While Sampling ☐ Added in Laboratory	☐ Not Added ☐ Not Applicable



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0777

Investigator: Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CA 92626 CDPH - RHB, 1500 Capitol Av., MS 7610 CA

Sacramento

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / December 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 12/18/2012

Parameter	Method	Result +/- CE	MDA 95 .	Units
Lab No; 12-0777-01	Sample ID: R 96104 Sample Type: Seawater	Time Collected: 12/17/2012	11:34 Sampling Point	: SONGS A
Tritium	EPA 906.0	-52.7 +/- 148	256	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

□ Air Filters	880 Marina Bay Parkway, G164 Richmond, CA 94804 510 - 620 - 2930 510-620-2911 Afth: Shi yama like Rubera Collector Information Name: Jenny Smith Dept./Branch: MBC Applied Environmental Sciences Address: 3000 Red Hw Are. Costa Mesa, Ca Telephone No: 714 - 850 - 4830 Telephone No: 714 - 850 - 4830 Telephone No: 914 - 850 - 4830 Billing Agency Sample Information System Name / Facility: Songs Sample Point (s): Billing Agency Type OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTI) Surface Water Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type): Net (M³)	1 1
Richmond, CA 94804 510 - 620 - 2930 510-620-2911 AHn: Shiyama lik Rubera Collector Information Name: Jenny Symith Dept. Branch: MBC Applied Environmental Sciences Address: 3000 Red Hill Ave. Costa Mesa, Ca Telephone No.: 714 - 850 - 4830 Sample Information System Name / Facility: SONGS Sampling Point (s): Type OF SAMPLE (Check all applicable boxes) Dirinking Water Raw Water Treatment Plant (WTH) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / ph Adjustanting: Starting: Net (M³) Air Charcoal Cartridge Date & Time Sampled Reporting Information Name: Starting Information Name	Richmond, CA 94804 510 - 620 - 2930 510-620-2911 AHn Shiyamalic Rubera Collector Information Name: Jenny Smith Dept./Branch: MBC Applied Environmental Sciences Paddress: 3000 Red Hill Ave. Costa Mesa, Ca 926/26 Telephone No: 714 - 850 - 4830 Sample Information System Name / Facility: Sampling Point (s): Diniking Water Drinking Wat	k) 🐔
Date & Time Sampled 12 7 12 134	Date & Time Sampled 12 17 12)
Reporting Information Name: Jenny Smith Dept/Branch: MBC Applied Environmental Sciences Address: 3000 Red Hww Are. Costa Mesa, Ca Telephone No.: 714 - 850 - 4830 Sample Information System Name / Facility: SONGS Sampling Point (s): DWFOB() RHB RWQCB() DTSC System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Sware Water Raw Water Treatment Plant (WTH) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjustring: Air Filters Date/Time Seawater Siudge (Semi-solid Sampling) Starting: Wipes Biota (Type): Radon Canister Other: COMMENTS: (Cautions, etc.):	Reporting Information Name: Jenny Smct N Dept./Branch: MBC Applied Environmental Sciences Address: 3000 Red Hill Are Costa Mesq. Ca Plelephone No.: 714 - 850 - 4830 Telephone No.: 916 - 440 - 940 Sample Information System Name / Facility: Song Billing Agency Dept./Branch: OPH - RHB Address: PD Box 94 - 7414 MS 7610 Telephone No.: 916 - 440 - 940 Billing Agency DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG System No.: PYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater G	_
Reporting Information Name: Jenny Smith Dept/Branch: MBC Applied Environmental Sciences Address: 3000 Red Hww Are. Costa Mesa, Ca Telephone No.: 714 - 850 - 4830 Sample Information System Name / Facility: SONGS Sampling Point (s): DWFOB() RHB RWQCB() DTSC System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Sware Water Raw Water Treatment Plant (WTH) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjustring: Air Filters Date/Time Seawater Siudge (Semi-solid Sampling) Starting: Wipes Biota (Type): Radon Canister Other: COMMENTS: (Cautions, etc.):	Reporting Information Name: Jenny Smct N Dept./Branch: MBC Applied Environmental Sciences Address: 3000 Red Hill Are Costa Mesq. Ca Plelephone No.: 714 - 850 - 4830 Telephone No.: 916 - 440 - 940 Sample Information System Name / Facility: Song Billing Agency Dept./Branch: OPH - RHB Address: PD Box 94 - 7414 MS 7610 Telephone No.: 916 - 440 - 940 Billing Agency DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG System No.: PYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater G	4
Dept/Branch: MBC Applied Environmental Sciences Dept/Branch: OPH-RHB Address: 3000 Red Hull Are. Costa Mesa, Ca Telephone No.: 714 - 850 - 4830 Sample Information System Name / Facility: Songs System No.: DWFOB() RHB RWQCB() DTSC DWFPB FDB DWR CDFG System No.: DWFOB() Surface Water Wastewater Raw Water Treatment Plant (WTH) Distribution System Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / ph Adjus Finishing: Date/Time Seawater Sludge (Semi-solid Sample Finishing: Milk Soil/Sediment Starting: Radon Canister Other: Air Charcoal Cartridge Comments Comments: (Cautions, etc.):	Dept./Branch: MBC Applied Enjuronmental Sciences Dept./Branch: DPH - RHB Address: 3000 Red Hull Ave. Costa Mesq. Ca Telephone No.: 714 - 850 - 4830 Telephone No.: 916 - 440 - 940 Sample Information System Name / Facility: SONGS Sampling Point (s): DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Raw Water Treatment Plant (WTB) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type): Radon Canister Other:	<u> </u>
Telephone No.:	Telephone No.: 74 - 850 - 4830 Sample Information System Name / Facility: SONGS Sampling Point (s): DWFOB() RHB RWQCB() DTSC DWFOB() EMB DWR CDFG System No.: PYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Distribution System Wastewater Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Studge (Semi-solid Samples) Finishing: Milk Soil/Sediment Starting: Wipes Biota (Type): Net (M³) Radon Canister Other:	
Telephone No.:	Telephone No.: 74 - 850 - 4830 Sample Information System Name / Facility: SONGS Sampling Point (s): DWFOB() RHB RWQCB() DTSC DWFOB() EMB DWR CDFG System No.: PYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Distribution System Wastewater Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Studge (Semi-solid Samples) Finishing: Milk Soil/Sediment Starting: Wipes Biota (Type): Net (M³) Radon Canister Other:	
System Name / Facility: Songs DWFOB () RHB RWQCB () DTSC DWFOB () DWFOB DWR CDFG DWTPB FDB DWR CDFG DWTPB DWTP	System Name / Facility: SONGS DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG DWTPB FDB DWR CDFG DWTPB FDB DWR CDFG EMB CDFG EMB DWR CDFG EMB CDFG CDFG EMB CDFG	
System Name / Facility: Songs DWFOB () RHB RWQCB () DTSC DWFOB () DWFOB DWR CDFG DWTPB FDB DWR CDFG DWTPB DWTP	System Name / Facility: SONGS DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG DWTPB FDB DWR CDFG DWTPB FDB DWR CDFG EMB CDFG EMB DWR CDFG EMB CDFG CDFG EMB CDFG	
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System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjustributions: Air Filters Date/Time Seawater Siudge (Semi-solid Sample Finishing: Starting: Wipes Biota (Type): Radon Canister Other:	System No.: PE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type): Net (M³) Radon Canister Other:	^
System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater With Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjus Air Filters Date/Time Seawater Sludge (Semi-solid Sample Finishing: Milk Starting: Milk Soil/Sediment Starting: Biota (Type): Radon Canister Other:	System No.: EMB Other (Specify)	
TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjust Air Filters Date/Time Seawater Sludge (Semi-solid Sample Finishing: Milk Starting: Net (M³) Radon Canister Dioxide COMMENTS: (Cautions, etc.):	Prinking Water Groundwater Surface Water Point of Use (POU) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / ph Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type):	3
Drinking Water	Drinking Water Groundwater Water Treatment Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / ph Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type):	
Raw Water Treatment Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted / Chlorinated / Chlorinated / Chlorinated / Chlorinated / Chlorinated / Chlorinated / Peroxizone / Fluoridated / Coagulated / pH Adjusted / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Peroxizone / Fluoridated / Chlorinated / Ch	Raw	
□ Raw □ Water Treatment/Plant (WTH) □ Distribution System □ Point of Use (POU) □ Treated (circle one): Chlorinated / Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjus □ Air Filters □ Date/Time □ Seawater □ Sludge (Semi-solid Sample Starting: □ Wipes □ Biota (Type): □ Radon Canister □ Other: □ Air Charcoal Cartridge	Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Wipes Biota (Type): Radon Canister	
□ Air Filters	Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Milk Soil/Sediment Starting: Wipes Biota (Type): Radon Canister	
□ Air Filters	Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Milk Soil/Sediment Starting: Wipes Biota (Type): Radon Canister	djusted
Finishing: Starting: Net (M³) Radon Canister Stidge (Serni-solid Sample Sample Starting: Right Milk Soil/Sediment Right Milk Soil/Sediment Right Milk Other: Other:	Finishing: Starting: Net (M³) Siddge (Semi-solid Samples)	
Starting: Net (M³) Radon Canister Other: COMMENTS: (Cautions, etc.):	Starting: Net (M³) Radon Canister Solv/Sediment Biota (Type): Other:	mples)
Net (M³)	Net (M³)	
COMMENTS: (Cautions, etc.):	- Collet.	
COMMENTS: (Cautions, etc.):		
COMMENTS: (Cautions, etc.):	Air Charcoal Cartridge	
D Field Toute on D	OMMENTS: (Cautions etc.):	
	Ciold Tendenger December 2	
	Field Treatment: Preservatives added:lced/Frozen: Other:	
Rush/Priority (should be prearranged and have supervisory approval)	Field Measurement:mR/hr ☐ Radionuclide(s), if known:	• :
ANALYSIS RÉQUESTED (For questions, please call 510-620-2911)		• :
El Constituto	Field Measurement:mR/hr	
Total Dentium	Field Measurement:mR/hr	
Total Bota (Coo)	Field Measurement:mR/hr	
The isotopic Americanity Current	Field Measurement:mR/hr	
	Field Measurement:mR/hr	
Radium-228	Field Measurement:mR/hr	
	Field Measurement:mR/hr	
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Thorium	Field Measurement:mR/hr	
Radon-222 Strontium-89, 90 Isotopic Uranium	Field Measurement:mR/hr	
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium ☐ Other (Specify); ☐ Nickel-63 ☐ Iron-55	Field Measurement:mR/hr	
Radon-222	Field Measurement:mR/hr	
Radon-222 Other (Specify): Nickel-63 Isotopic Uranium Nickel-63 Iron-55 CHAIN OF GUSTODY 1. 12 17 12 Name (Print) Name (Print)	Rush/Priority (should be prearranged and have supervisory approval) Rush/Priority (should be prearranged and have supervisory approval) Rush/Priority (should be prearranged and have supervisory approval) NALYSIS REQUESTED (For questions, please call 510-620-291.) Gross Beta Gamma Scan Gamma Scan NORM (Gamma) Total Beta (LSC) NORM (Gamma) Isotopic Americium / Curium Radium-226 Garbon-131 Isotopic Plútonium Radium-228 Isotopic Plútonium Isotopic Thorium Radium-222 Strontium-89, 90 Isotopic Uranium Is	
Radon-222 Other (Specify); Nickel-63 Isotopic Uranium Nickel-63 Iron-55 CHAIN OF CUSTODY 1. 12 17 12 Date 34 Name (Print)	Field Measurement:	
Radon-222 Other (Specify); Nickel-63 CHAIN OF GUSTODY 1. 12 17 12 Date 34 Time Custody Received Organization Organization Signature Discoptic Trinitian Isotopic Uranium Isotopic Uranium Isotopic Uranium Incomplete 10 10 10 10 10 10 10 10 10 10 10 10 10	Field Measurement:	
Radon-222 Other (Specify); Nickel-63 CHAIN OF GUSTODY 1.	Frield Measurement:mR/hr	
Radon-222 Other (Specify); Nickel-63 CHAIN OF CUSTODY 1. 12 17 12	Field Measurement:	ised
Radon-222 Other (Specify); Nickel-63 CHAIN OF GUSTODY 1. Date 34	Field Measurement:	ised
Radon-222 Other (Specify); Nickel-63 CHAIN OF GUSTODY 1. 2 17 12	Field Measurement:	ised
□ Radon-222 □ Other (Specify); □ Nickel-63 □ Iron-55 CHAIN OF GUSTODY 1. □ 12 □ 17 □ 12 □ 12 □ 17 □ 12 □ 12 □ 17 □ 17	Field Measurement:	sed
□ Radon-222 □ Other (Specify); □ Nickel-63 □ Iron-55 CHAIN OF GUSTODY 1. □ 12 □ 17 □ 12 □ 12 □ 12 □ 12 □ 12 □ 12	Field Measurement:	sed
□ Radon-222 □ Strontium-89, 90 □ Isotopic Uranium □ Other (Specify); □ Nickel-63 □ Iron-55 CHAIN OF CUSTODY 1. □ 12 □ 17 □ 12 □ 12 □ 17 □ 12 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 12 □ 17 □ 17	Field Measurement:	sed
□ Radon-222 □ Strontium-89, 90 □ Isotopic Uranium □ Other (Specify); □ Nickel-63 □ Iron-55 CHAIN OF GUSTODY 1. □ 12 17 12 □ Date □ 34 □ Name (Print) □ Date □ 34 □ Time Custody Received □ Organization □ Signature □ Time Custody Released □ Date □ Name (Print) □ Date □ Time Custody Received □ Organization □ Signature □ Time Custody Released □ Date □ Name (Print) □ Date □ Date □ Time Custody Received □ Organization □ Signature □ Time Custody Released □ Date □ Name (Print) □ Date	Field Measurement:mR/hr	sed
□ Radon-222 □ Strontium-89, 90 □ Isotopic Uranium □ Other (Specify); □ Nickel-63 □ Iron-55 CHAIN OF GUSTODY 1.	Field Measurement:mR/hr	sed
□ Radon-222 □ Strontium-89, 90 □ Isotopic Uranium □ Other (Specify); □ Nickel-63 □ Iron-55 CHAIN OF GUSTODY 1. □ 12 □ 17 □ 12 □ 12 □ 12 □ 12 □ 12 □ 12	Field Measurement:	sed
COMMENTS: (Cautions, etc.):	1.82-0110	
COMMENTS: (Cautions, etc.):	- Collet.	
COMMENTS: (Cautions, etc.):	- Collet.	
Net (M°)	Net (M³) Other:	
Net (M³) Air Charcoal Cartridge COMMENTS: (Cautions, etc.):	Net (M³)	
Net (M³)	Net (M³)	
Starting: Net (M³) Radon Canister Other: COMMENTS: (Cautions, etc.):	Starting: Biota (Type): Net (M³)	iipico/
Starting: Net (M³) Radon Canister COMMENTS: (Cautions, etc.):	Starting: Net (M³) Radon Canister Solv/Sediment Biota (Type): Other:	mples)
Finishing: Starting: Net (M³) Radon Canister Stidge (Serni-solid Sample Sample Starting) Richarcoal Cartridge	Finishing: Starting: Net (M³) Siddge (Semi-solid Samples)	
Finishing: Starting: Net (M³) Radon Canister Stidge (Serni-solid Sample Sample Starting) Richarcoal Cartridge	Finishing: Starting: Net (M³) Siddge (Semi-solid Samples)	djusted
□ Air Filters	Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Dim Milk Soil/Sediment Starting: Net (M³) Radon Canister Other:	
□ Raw □ Water Treatment/Plant (WTH) □ Distribution System □ Point of Use (POU) □ Treated (circle one): Chlorinated / Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjus □ Air Filters □ Date/Time □ Seawater □ Sludge (Semi-solid Sample Starting: □ Wipes □ Biota (Type): □ Air Charcoal Cartridge □ Air Charcoal Cartridge	Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Siudge (Semi-solid Samples) Finishing: Milk Soil/Sediment Starting: Net (M³)	
Raw Water Treatment Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted / Chlorinated / Chlorinated / Chlorinated / Chlorinated / Chlorinated / Chlorinated / Peroxizone / Fluoridated / Coagulated / pH Adjusted / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Peroxizone / Fluoridated / Chlorinated / Ch	Raw	
Drinking Water	Drinking Water Groundwater Water Treatment Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / ph Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type):	
TYPE OF SAMPLE (Check all applicable boxes) Drinking Water	Prinking Water Groundwater Surface Water Point of Use (POU) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / ph Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type):	3
System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water	System No.: EMB Other (Specify)	
System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water	System No.: PE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type): Net (M³) Radon Canister Other:	
System Name / Facility: Some Sampling Point (s): System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjuster Starting: Net (M³) Air Charcoal Cartridge DWFOB () RHB RWQCB () DTSC RWW CB () DTSC RHB RWQCB () DTSC RHB RWGCB () DTSC RHB RWQCB () DTSC RHB RWGCB () DTSC RHB R	System Name / Facility: SONGS DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG DWTPB FDB DWR CDFG DWTPB FDB DWR CDFG EMB CDFG EMB DWR CDFG EMB CDFG CDFG EMB CDFG	
System Name / Facility: Some Sampling Point (s): System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjuster Starting: Net (M³) Air Charcoal Cartridge DWFOB () RHB RWQCB () DTSC RWW CB () DTSC RHB RWQCB () DTSC RHB RWGCB () DTSC RHB RWQCB () DTSC RHB RWGCB () DTSC RHB R	System Name / Facility: SONGS DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG DWTPB FDB DWR CDFG DWTPB FDB DWR CDFG EMB CDFG EMB DWR CDFG EMB CDFG CDFG EMB CDFG	
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Telephone No.: 74 - 850 - 4830 Sample Information System Name / Facility: SONGS Sampling Point (s): DWFOB() RHB RWQCB() DTSC System No.: DWFOB() RHB RWQCB() DTSC System No.: DWFOB() RHB RWQCB() DTSC System No.: DWFOB() Surface Water DWFOB() DWR CDFG System No.: DWFOB() RHB RWQCB() DTSC System No.: DWFOB() RHB RWQCB() DTSC System No.: DWFOB() RHB RWQCB() DTSC DWFOB() DWFOB() RHB RWQCB() DTSC DWFOB() DWFOB() DWR CDFG System No.: DWFOB() SHB RWQCB() DTSC DWFOB() DWFOB() DWR CDFG System No.: DWFOB() DWR CDFG DWFOB() DWFOB() DWFOB() DWR DWFOB() DWFOB() DWR CDFG DWFOB() DWFOB() DWFOB() DWR DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB() DWFOB	Telephone No.: 74 - 850 - 4830 Sample Information System Name / Facility: SONGS Sampling Point (s): DWFOB() RHB RWQCB() DTSC DWFOB() EMB DWR CDFG System No.: PYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Distribution System Wastewater Plant (WTH) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Studge (Semi-solid Samples) Finishing: Milk Soil/Sediment Starting: Wipes Biota (Type): Net (M³) Radon Canister Other:	
Dept/Branch: MBC Applied Environmental Sciences Dept/Branch: OPH-RHB Address: 3000 Red Hull Asc. Costa Mesa, Ca Telephone No: 714 - 850 - 4830 Telephone No: 916 - 440 - 7440 Sample Information Billing Agency Sampling Point (s): DWFOB () RHB RWQCB () DTSC System No: DWFOB DWR CDFG System No: DWFOB DWR DWFOB System No: DWFOB DWFOB DWFOB System No: DWFOB DWFOB DWFOB System No: DWFOB DWFOB DWFOB DWFOB System No: DWFO	Dept./Branch: MBC Applied Enjuronmental Sciences Dept./Branch: DPH - RHB Address: 3000 Red Hull Ave. Costa Mesq. Ca Telephone No.: 714 - 850 - 4830 Telephone No.: 916 - 440 - 940 Sample Information System Name / Facility: SONGS Sampling Point (s): DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Raw Water Treatment Plant (WTB) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type): Radon Canister Other:	
Name: Jenny Smith Dept/Branch:MSC Apoled Enuronmental Sciences Address: 3000 Rock Hwy Ave. Costa Mesa, Ca 92626 Telephone No.: 714 - 850 - 4830 Telephone No.: 714 - 850 - 4830 Sample Information System Name / Facility: Sampling Point (s): Dywrob Drinking Water Groundwater Water Treatment Plant (WTh) Distribution System Dept./Branch:CDPH - RHB RWQCB () DTSC System No.: Type of Sample (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTh) Distribution System Dept./Branch:CDPH - RHB RWQCB () DTSC System No.: Type of Sample (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTh) Distribution System Dept./Branch:CDPH - RHB RWQCB () DTSC System No.: Type of Sample (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTh) Distribution System Dept./Branch:CDPH - RHB Address: Po Box (2016)	Name: Jethy Smart Dept/Branch: MBC Applied Environmental Sciences Dept/Branch: MBC Applied Environmental Sciences Dept/Branch: OPH - RHB Address: 3000 Red Hw Ave. Costa Mesa, Ca Dept/Branch: OPH - RHB Address: PD Box Qq - 7414 MS 7610 Sarphing Point (s):	T
Reporting Information Name: Jenny Smith Dept/Branch: MBC Applied Environmental Sciences Address: 3000 Red Hww Are. Costa Mesa, Ca Telephone No.: 714 - 850 - 4830 Sample Information System Name / Facility: SONGS Sampling Point (s): DWFOB() RHB RWQCB() DTSC System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Sware Water Raw Water Treatment Plant (WTH) Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjustring: Air Filters Date/Time Seawater Siudge (Semi-solid Sampling) Starting: Wipes Biota (Type): Radon Canister Other: COMMENTS: (Cautions, etc.):	Reporting Information Name: Jenny Smct N Dept./Branch: MBC Applied Environmental Sciences Address: 3000 Red Hill Are Costa Mesq. Ca Plelephone No.: 714 - 850 - 4830 Telephone No.: 916 - 440 - 940 Sample Information System Name / Facility: Song Billing Agency Dept./Branch: OPH - RHB Address: PD Box 94 - 7414 MS 7610 Telephone No.: 916 - 440 - 940 Billing Agency DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG System No.: PYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater G	1
Collector Information Name: Jenny Smith Dept./Branch:/MBC Applied Environmental Sciences Address:3000 Red Him Ave. Costa Mesa, Ca Telephone No.: 714 - 850 - 4830 Sample Information System Name / Facility: SoNGS Sampling Point (s): DWFOB () RHB RWQCB () DTSC System No.: DWFOB () RHB RWQCB () DTSC System No.: DWFOB () Wastewater DWTPB FDB DWR CDFG System No.: Surface Water Distribution System Point (s): Point of Use (POU) Dreated (circle one): Chlorinated / Chlorine Distribution System Point (s): Seawater Point (s): Sidde (semi-solid Sample Finishing: Point (s):	Collector Information Name: Jenny Smith Name: Je	2022/01/2020
Date & Time Sampled 12 7 12 134 P 9611 4	Date & Time Sampled Serial Number Serial Number	
Richmond, CA 94804 510 - 620 - 2930 Storage 2911 Attn: Shiyamatic Rubera Collector Information Name: Jenny Smith Dept/Branch: MBC Applied Environmental Sciences Address: 3000 Red Hill Ave. Costa Mesa, Ca Telephone No.: 714 - 850 - 4830 Telephone No.: 914 - 850 - 4830 Telephone No.: 914 - 850 - 4830 Telephone No.: 916 - 440 - 9440 Sample Information System Name / Facility: SONGS System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water	880 Marina Bay Parkway, G164 Richmond, CA 94804 510 - 620 - 2930 510-620-2911 Afth: Shi yama like Rubera Collector Information Name: Jenny Smith Dept./Branch: MBC Applied Environmental Sciences Address: 3000 Red Hw Are. Costa Mesa, Ca Telephone No: 714 - 850 - 4830 Telephone No: 714 - 850 - 4830 Telephone No: 914 - 850 - 4830 Billing Agency Sample Information System Name / Facility: Songs Sample Point (s): Billing Agency Type OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTI) Surface Water Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type): Net (M³)	
Richmond, CA 94804 510 - 620 - 2930 Storage 2911 Attn: Shiyamatic Rubera Collector Information Name: Jenny Smith Dept/Branch: MBC Applied Environmental Sciences Address: 3000 Red Hill Ave. Costa Mesa, Ca Telephone No.: 714 - 850 - 4830 Telephone No.: 914 - 850 - 4830 Telephone No.: 914 - 850 - 4830 Telephone No.: 916 - 440 - 9440 Sample Information System Name / Facility: SONGS System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water	880 Marina Bay Parkway, G164 Richmond, CA 94804 510 - 620 - 2930 510-620-2911 Afth: Shi yama like Rubera Collector Information Name: Jenny Smith Dept./Branch: MBC Applied Environmental Sciences Address: 3000 Red Hw Are. Costa Mesa, Ca Telephone No: 714 - 850 - 4830 Telephone No: 714 - 850 - 4830 Telephone No: 914 - 850 - 4830 Billing Agency Sample Information System Name / Facility: Songs Sample Point (s): Billing Agency Type OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTI) Surface Water Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters Date/Time Seawater Sludge (Semi-solid Samples) Finishing: Starting: Wipes Biota (Type): Net (M³)	1 1
☐ Air Filters ☐ Date/Time ☐ Seawater ☐ Sludge (Semi-solid Sar Finishing: ☐ Milk ☐ Soil/Sediment ☐ Starting: ☐ Wipes ☐ Biota (Type): ☐ Radon Canister ☐ Other: ☐ COMMENTS: (Cautions, etc.):	Treated (circle one): Chlorinated / Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Ada Air Filters	



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax; (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0778

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

Sacramento

CDPH - RHB, 1500 Capitol Av., MS 7610 CA 95814-5006

Phone Number: 714-850-4830

CA

Phone Number: 916-440-7955

Task ID: 12-0778

Site/Project Name: San Onofre NPP / December 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 12/18/2012

Result +/- CE Parameter Method **MDA** 95 Units R 96105 Time Collected: 12/17/2012 11:50 Sampling Point: SONGS B Lab No: 12-0778-01 Sample ID: Sample Type: Seawater K-40 EPA 901.1 323 +/- 17.1 59.2 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
Drinking Water and Radiation Laboratory Branch 850 Marina Bay Parkway, G164	Date Received Lab No. (Leave Blank)
Richmond, CA 94804 510 - (p20 - 2930 - 2	120778
510-620-2911 Alln: Shiyamalie Rubera	Date & Time Sampled Serial Number 12 17 12 150 R 96105
Name: Jenny Smith Dept./Branch: MBC Applied Environmental Science Address: 3000 Red Hill Ave. Costa Mesa, Ca	Reporting Information Name: Steve HSU Dept./Branch: CDPH - RHB Address: PO Box 99 - 7414 MS 7010
Telephone No.: 714 850 - 4830 Sample Information	reprone No.: 4102247 -79287
System Name / Facility: SONGS Sampling Point (s):	Billing Agency DWFOB() RHB RWQCB() DTSC DWTPB FDB DWR CDFG EMB Other (Specify)
System No.:	☐ EMB ☐ Other (Specify)
☐ Raw ☐ Water Treatment Plant (WTP)	☐ Surface Water ☐ Wastewater ☐ Distribution System ☐ Point of Use (POU) ☐ de / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
	☐ Milk ☐ Soil/Sediment
On and the second of the secon	☐ Wipes ☐ Biota (Type):
h 1 - 1 / n e 3\	☐ Radon Canister ☐ Other:
☐ Air Charcoal Cartridge	
— —	ced/Frozen:Other: ☐ Radionuclide(s), if known:
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
☐ Gross Alpha ☐ Gross Beta	Gamma Scan
☐ Total Uranium ☐ Total Beta	
☐ Total Radium ☐ Tritium (³H)	☐ Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14	☐ Isotopic Plutonium
Radium-228 lodine-131	☐ Isotopic Thorium
☐ Radon-222 ☐ Strontium-89	9, 90 🔲 Isotopic Uranium
Other (Specify); Nickel-63	☐ Iron-55
CHAIN OF CUSTODY 1. 12 17 12	Date 100 Time Custody Released
Date Name (Print)	Date
3	Signature Time Custody Released
William Dukus	Date
ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Acceptable	Signature Time Custody Released IR/HR Leaked in Transit Improper Container Insufficient Sample Not Added



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0779

Investigator: Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CA

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

92626

Sacramento

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / December 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 12/18/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0779-01 Sample 1D: R 96107 Time Collected: 12/17/2012 11:50 Sampling Point: SONGS B Sample Type: Seawater Tritium EPA 906.0 -87.8 +/- 147 256 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SAMPLE ANALYSIS (Radiochemical)					
[2	Prinking Water and Rad	iation Laboratory B	ranch	Date Re	ceived .	Lab No. (Leave Blank)
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5	10-620-2911 Alta Sh	$0 - \omega_{20} - 291$	√°rα	Date & Time		Serial Number
			<u> </u>	12/17/12		R 96107
N	lame: (PANOU SM	idh		Reporting Inform Name: Steve	Llea	•
L)	ept./Branch:M/AC. Alba:	けんしょうしゃ しんけん	ental Sciences	∖ IDept./Branch:∕ ເລເ	ാവ പരാധര	
A	ddress: 3000 Rod (1 92626	ill Arc. Costo	, Mesq, Ca	_ Address: +O ⊟⊙x	99-7414	MS 7610
· · · •		-850,- 48 30		Sacrar Telephone No.: 9	Mento co	95899
	ample Information			Billing Agency	(V 1-4) -	<u>M40</u>
	ystem Name / Facility: ampling Point (s):	SONG	S*\\	.1	RHB 🗖 I	RWQCB() DTSC
Ū	ompining Fount (5).	_	;**	DWTPB	☐ FDB ☐ [OWR CDFG
<u>s</u>	ystem No.:	レ		□ EMB	Other (Spec	ify)
T	/PE OF SAMPLE (Chec	k all applicable boxes	s)			
	Drinking Water	☐ Groundwa	ter	☐ Surface Water	[1 Wastewater
	Raw	☐ Water Tre	atment Plant (WTP)	Distribution Sys	tem [Point of Use (POU)
_	reated (circle one): C	hlonnated / Chlorami	nated / Chlorine Dio	ide / Ozonated / Per	oxizone / Fluorid	ated / Coagulated / pH Adjusted
	Air Filters	Dat	e/Time	Seawater		Sludge (Semi-solid Samples)
	Finishing:	·		☐ Milk		Soil/Sediment
	Starting:			☐ Wipes		Biota (Type):
•	Net (M³)			Radon Canister		Other:
	Air Charcoal Cartridge		: : •			***
~	MENTO (On the second	Ze y	The state of the s	· · · · · · · · · · · · · · · · · · ·		
4. .	OMMENTS: (Cautions, e	1/2	· · · · · · · · · · · · · · · · · · ·	* * *		
	Field Treatment: Pres	servatives added:		iced/Frozen:		ər: <u>* </u>
	Field Measurement:		mR/hr	Radionuclide(s)	, if known:	
_	Rush/Priority (should be			<u>, </u>		<u>*</u>
	IALYSIS REQUESTED (For questions, pleas	e call 510-620-2911)			
	Gross Alpha		Gross Beta	ı	☐ Gamma Sca	n ·
	Total Uranium	yeta S	☐ Total Beta	(LSC)	☐ NORM (Gar	nma)
	Total Radium	, e.,	H ³) muitium (³ H))	☐ Isotopic Am	ericium / Curium
	Radium-226	•	Carbon-14	•.	☐ Isotopic Plut	
	Radium-228		lodine-131		☐ Isotopic Tho	
	Radon-222		☐ Strontium-8	9, 90	☐ Isotopic Ura	
	Other (Specify);		☐ Nickel-63		☐ Iron-55	
	AIN OF CUSTODY	A 10004 G	- 13- 5 5	<u> </u>		1)
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	¥ 6 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					Time Custody Released
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	Holding Time Exceeds	ed 🛘 Sample	Not Cooled	Insufficient Samp	l e 1000 en en en	- Park Annau (A)
8.	Preservatives/Carriers:	د ≃ششفان س		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
8	Added While Sampling	Added	in Laboratory	O Not Added		□ Not Applicable
Lab (803 (04/12)					71.11



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0780

Collector:

System No:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CA 92626 CDPH - RHB, 1500 Capitol Av., MS 7610

CA 95814-5006

Phone Number: 714-850-4830

Sacramento

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / December 2012

Billing Agency: RHB

Samples Received by Lab: 12/18/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0780-01	Sample ID: R 96110 Sample Type: Seawater	Time Collected: 12/17/2012 11:43	Sampling Poin	t: SONGS C
K-40	EPA 901.1	400 +/- 24.3	88.5	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SAMP	LE ANALYSIS (Radiochemical)	Contract to
Drinking Water and Radia 850 Marina Bay Parkway, C	tion Laboratory Branch	Date Received	Lab No. (Leave Blank)
Richmond, CA 94804 516	2-1-20-2020	2-18-12	12-6140
2910-020-2911 Attn: SY	niyamalie Rubera	Date & Time Sampled 12 17 12 143	R 961.10
Collector Information Name: Jenny Smi	·	Reporting Information	
Dept./Branch:Med. Appl	hed Environmental Science	Name: Steve HSU	
Address: 3000 Red th	ill Ave. Costa Mesa, ca	Address: PO Pox 99 - 741	4 ms 7610
92020 Telephone No.: 14-8		Sacramento, Ca	୍ର ବ୍ରହିତ୍ୟ ବିଦ୍ୟୁ
Sample Information		Telephone No.: 914-440-	7940
System Name / Facility:	80NGS	**_	RWQCB() DTSC
Sampling Point (s):		D DWTPB D FDB	DWR CDFG
System No.:			cify)
TYPE OF SAMPLE (Check	all applicable boxes)	*	
Drinking Water	☐ Groundwater	☐ Surface Water	☐ Wastewater
Raw	☐ Water Treatment Plant (WT)	P) 👊 Distribution System (☐ Point of Use (POU)
Treated (circle one): Chi	ornated / Chloraminated / Chlorine D	ioxide / Ozonated / Peroxizone / Fluorio	lated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater [Studge (Semi-solid Samples)
Finishing:	<u> </u>		☐ Soil/Sediment
Starting:		Ü Wipes (☐ Biota (Type):
			Other:
☐ Air Charcoal Cartridge	<u> • </u>		
☐ Field Treatment: Prese	rvatives added:mR/hr		er:
Rush/Priority (should be p	rearranged and have supervisory ap	proval)	
ANALYSIS REQUESTED (Fo	or questions, please call 510-620-291	111	
Gross Alpha	☐ Gross B	1.	an
☐ Total Uranium	☐ Total Be	7	
☐ Total Radium	☐ Tritium (3	ericium / Curium
Radium-226	☐ Carbon-	- A	
☐ Radium-228	☐ lodine-1:	•	
☐ Radon-222	☐ Strontium		
Other (Specify);	□ Nickel-63	•	
CHAIN OF CUSTODY 1. 12 12 12 Date 122	Jenny Smith		12/12/12 Date
2	Organization	* Signatur	Time Custody Released
	Name (Print)	•	Date
3. <u>12-14-12</u>	Organization () (Signature	Time Custody Released
Date 11:30	Name (Print)	Dutoria M. O.	Date
Time Custody Received C	Organization	Signature	Time Custody Released
LABORATORY REMARKS (L A. Condition at Time of Receip Acceptable Holding Time Exceeded	ot: Broken Container	☐ Leaked in Transit☐ Insufficient Sample	☐ Improper Container
B. Preservatives/Carriers: Q Added While Sampling		D Not Added	□ Not Applicable



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0781

Investigator: Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300

CA 92626 CDPH - RHB, 1500 Capitol Av., MS 7610 CA

Costa Mesa

Sacramento

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / December 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 12/18/2012

Result +/- CE MDA 95 Units Method Parameter Sampling Point: SONGS C Time Collected: 12/17/2012 11:43 Sample ID: R 96112 Lab No: 12-0781-01 Sample Type: Seawater EPA 906.0 -11.7 +/- 149 256 pCi/L Tritium

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	ANALYSIS (Radiochemical)	
Drinking Water and Radiation Laboratory Branch	Date Received	Lett No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804 Fig. 4 22 22 22 22 22 22 22 22 22 22 22 22 2		12-0-31
Richmond, CA 94804 510 - 620 - 2930 510-620-2911 AHn: Shiyamalie Rubera	Date & Time Sampled	Serial Number
Collectes Information	12/17/12/143	R 96112
Name: Jenny Smith	Reporting Information Name: SHOUCHSU	,
Dept/Branch: MBC Applied Environmental Year as	Dept./Branch:CDPH - RHB	Marie Property
Address: 3000 Red Hill Ale. Costa Mesa, Ca	Address:20 BOX 99-7414 Y	<u>ns</u> 7010
Telephone No.: 714 -850 - 4830	Socramento Ca 9 Telephone No.: 016 - 440 - 796	58 99
Sample Information	Billing Agency	†()
System Name / Pacinty:	🔲 DWFOB() 🔀 RHB 🔲 RWQ(CB(1) DTSC
Sampling Point (s):	D DWTPB D FDB DWR	☐ CDFG
System No.:	☐ EMB ☐ Other (Specify) _	· · · · · · · · · · · · · · · · · · ·
TYPE OF SAMPLE (Check all applicable boxes)		· - :
☐ Drinking Water ☐ Groundwater	Surface Water	stewater
Raw Water Treatment Plant (WTP)	☐ Distribution System ☐ Poi	int of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	ide / Ozonated / Peroxizone / Fluoridated /	/ Coagulated / pH Adjusted
☐ Air Filters Date/Time	⊠ Seawater □ Slu	dge (Semi-solid Samples)
· •		il/Sediment
		ta (Type):
	•	ier:
☐ Air Charcoal Cartridge	a Nadori Carrister	161.
	· · · · · · · · · · · · · · · · · · ·	
COMMENTS: (Cautions, etc.): Preservatives added:	Andrew March & Charles and March 1997	<u> </u>
☐ Field Treatment: Preservatives added:	lced/Frozen: Other:	:
	☐ Radionuclide(s), if known:	
☐ Rush/Priority (should be prearranged and have supervisory appro	vai)	And the second s
ANALYSIS REQUESTED (For questions, please call 510-620-2911)		
☐ Gross Alpha ☐ Gross Beta	☐ Gamma Scan	
☐ Total Uranium ☐, Total Beta		.
☐ Total Radium ☐ Tritium (³H)	• •	
□ Radium-226 □ Carbon-14	☐ Isotopic Plutoniui	
☐ Radium-228 ☐ lodine-131	☐ Isotopic Thorium	
☐ Radon-222 ☐ Strontium-8		·
☐ Other (Specify); ☐ Nickel-63	□ Iron-55	
CHAIN OF CUSTODY	1011-00	<u></u>
1. 12/17/12 Jenny Smith		12/17/12
Date Name (Print) WR		Date
Time Custody Received Organization	Signature	Time Custody Released
2.		
Date Name (Print)		Date
Time Custody Received Organization	Signature	Time Custody Released
3. 2-08-12 Name (Skipt)	40.	
Date 11:30 Name (Print) DWRIB	Viloun III Oh.	Date
Time Custody Received Organization	Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank)		
A. Condition at Time of Receipt:		
☐ Acceptable ☐ Broken Container ☐ Holding Time Exceeded ☐ Sample Not Cooled	☐ Legked in Trensit ☐ ☐ Insufficient Sample	Improper Container
B. Preservatives/Carriers:		
D. Added While Sampling □ Added in Laboratory	☐ Not Added ☐	Not Applicable
		Carana at declet GTER, Recarried in the Part



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0782

Collector:

James Nunez

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science 3000

CDPH - RHB, 1500 Capitol Av., MS 7610

95814-5006 CA

Costa Mesa

CA

Sacramento

Phone Number: 714 850-4830

Phone Number: 916-440-7955

Task ID: 12-0782

Site/Project Name: San Onofre NPP / December 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 12/18/2012

Parameter Method Result +/- CE **MDA 95** Units Lab No: 12-0782-01 R 96115 Sample ID; Time Collected: 12/17/2012 10:25 Sampling Point: SONGS D Sample Type: Seawater K-40 EPA 901.1 363 +/- 21.6 80.6 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

		ANALYSIS (Radiochemical)	
Drinking Water and Radiation Laborato 850 Marina Bay Parkway, G164		Date Received	Lab No. (Lepave Blank)
Richmond, CA 94804 510 - 420	-7930	Date & Time Sampled	Serial Number
510-620-2911 Attn: Shiyamalie	Rubera	12/17/12 1025	R 96115
Collector Information		Reporting Information	
Name: Jamos Nunez Dent/Branch: MBC Applied Found	Sylphose	Name: Steve HSU	. /
Dept./Branch: MBC Applied Enuvo Address: 3000 Red HW Ave. C	mmoniu sacio	Address: DO ROX QQ-TE	IL MS TIME
12626 Telephone No.: 14-850-48		Address: PO BOX 99-TR SACTOMOTION (Telephone No.: 916-440-	16 05899
Sample Information	i .	Billing Agency	1 190
System Name / Facility: SONG	S'	D DWFOB() X RHB	IRWQCB() ☐ DTSC
Sampling Point (s):	The Contraction	D DWTPB D FDB	I DWR ☐ CDFG
System No.:		☐ EMB ☐ Other (Sp	ecify)
TYPE OF SAMPLE (Check all applicable b	oxes)		•
☐ Drinking Water ☐ Groun		Surface Water	☐ Wastewater
	r Treatment Plant (WTP)	-	Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chlo	raminated / Chlorine Diox	ide / Ozonated / Peroxizone / Huo	ridated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater Seawater	☐ Sludge (Semi-solid Samples)
Finishing:	· · · · · · · · · · · · · · · · · · ·	Milk -	☐ Soil/Sediment
Starting:	1	☐ Wipes	Biota (Type):
Net (M³)		☐ Radon Canister	Other:
☐ Air Charcoal Cartridge		 	
COMMENTS: (Cautions, etc.):	<u> </u>	W	
☐ Field Treatment: Preservatives added	d:	tced/Frozen:C	Other:
☐ Field Measurement:	mR/hr	Radionuclide(s), if known:	
☐ Rush/Priority (should be prearranged ar		· ·	
ANALYSIS REQUESTED (For questions, p	 olease call 510-620-2911)	·	· · · · · · · · · · · · · · · · · · ·
☐ Gross Alpha	☐ Gross Beta		Scan
☐ Total Uranium	☐ Total Beta	/ 1	
☐ Total Radium	☐ Tritium (³ H	1A, 1 1	Americium / Curium
☐ Radium-226	☐ Carbon-14	' :	
☐ Radium-228	☐ lodine-131	, e	
☐ Radon-222	☐ Strontium-8	· ·	
Other (Specify);	Nickel-63.		
CHAIN OF CUSTODY		*	1 f was
1. 17/17/12 Javes N Date Name (Print)	unu 2		12/17/12
1025 Name (Print)	Environmental Sciences)	Date \ \500
Time Gustody, Received Organization	Childre	Signature	Time Custody Released
Date Name (Print)	1 Smith		12/17/12-
1,500 YM	<u>3c</u>	Deline	
Time Custody Received Organization	ΙΛ	Signature	- Time Custody Released
3.	<u> </u>	22 24	Date
11:30	DWRIB	Viloria W. Oli	
Time Custody Received Organization	F := :	Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank)			
A. Condition at Time of Receipt:	Broken Container	□ Leaked in Transit	☐ Improper Container
	Sample Not Cooled	☐ Insufficient Sample	anproper contantel
B. Preservatives/Carriers:			
☐ Added While Sampling ☐ /	Added in Laboratory	Not Added	☐ Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0783

Investigator: James Nunez

RHB

Requestor: Roger Lupo

RHB

Costa Mesa

MBC Applied Environmental Science 3000

CDPH - RHB, 1500 Capitol Av., MS 7610 Sacramento

CA

95814-5006

CA Phone Number: 714 850-4830

Phone Number: 916-440-7955

Task ID: 12-0783

Site/Project Name: San Onofre NPP / December 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 12/18/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0783-01 R 96116 Sample ID: Time Collected: 12/17/2012 10:25 Sampling Point: SONGS D Sample Type: Seawater Tritium EPA 906.0 -176 +/- 145 256 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

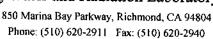
⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Lab 803 (04/12)

	ANALYSIS (Radiochemical)	
Drinking Water and Radiation Laboratory Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804 5 0 - 620 - 2930	2/5-/4 \$	7.0985
510-620-2911 Affn: Shiyamalia Rubera	Date & Time Sampled	Serial Number
ATTI- Singamula Robera	12/17/12 1025	R 96116
Name: James Nunez	Reporting Information Name: Shove HSU	•
Dept/Branch: MBC Apolled Enjuronmental Science	Dent /Branch C D DH - DHR	
Dept./Branch: MEC Applied Environmental Sciences Address: 3000 Red HW Ave. Costa Mesa, Ca 92626	Address: PO BOX 99-741	4 MS 7610
Telephone No.: 714-850 -4830	Sacramento, Ca	. 95844
Comple Information	Telephone No.: 910-440- Billing Agency	- 7940
System Name / Facility: SONGS	, ,	RWQCB() DTSC
Sampling Point (s):		DWR DISC
Symtom No.:		cify)
System No.:		
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)		☐ Wastewater ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	•	
		actor Coagainted Fir Adjusted
☐ Air Filters Date/Time	•	☐ Sludge (Semi-solid Samples)
Finishing:	☐ Milk	☐ Soil/Sediment
Starting:	☐ Wipes.	☐ Biota (Type):
Net (M³)	☐ Radon Canister i	☐ Other:
☐ Air Charcoal Cartridge	•	
COMMENTS: (Cautions, etc.):	2) - v -
	lced/Frozen: Otl	ner: 👢 🗱
120	Radionuclide(s), if known:	
☐ Rush/Priority (should be prearranged and have supervisory appro		<u> </u>
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	<u> </u>	
☐ Gross Alpha ☐ Gross Beta		
☐ Total Uranium ☐ Total Beta		,
☐ Total Radium Tritium (³H)	•	nericium / Curium
☐ Radium-226 ☐ Carbon-14	☐ Isotopic Pl	
☐ Radium-228 ☐ Iodine-131	☐ Isotopic Th	
Radon-222 Strontium-8	9, 90 🔲 Isotopic Ur	anium
Other (Specify); Nickel-63	☐ Iron-55	
CHAIN OF CUSTODY		- 1 1
1. Date Name (Print)		12 17 12
1025 MOR Applied Environmental Singier		
Time Custody Received Organization	Signature	Time Custody Released
2. 12/12/12 Enny on Th		12/17/17 Date
1500 mBC	LD our & dr	$=$ $\frac{1705}{}$
Time Custody Received Organization	Signature	Time Custody Released
3. Date Name (Print)	V	Date
11:30 DWKGB	Dutoroa W. ale	
Time Custody Received Organization	Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank)		
A. Condition at Time of Receipt: Broken Container		
☐ Acceptable ☐ Broken Container ☐ Holding Time Exceeded ☐ Sample Not Cooled	☐ Leaked in Transit ☐ Insufficient Sample	☐ Improper Container
B. Preservatives/Carriers:		
☐ Added While Sampling ☐ Added in Laboratory	□ Not Added	Not Applicable



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0622

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CA 92626

Sacramento

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

Phone Number: 714-850-4830

95814-5006

Sample ID:

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / November 2012 Billing Agency: RHB

Samples Received by Lab: 11/21/2012

Parameter

Method

R 92346

Result +/- CE

MDA 95

Units

Lab No: 12-0622-01

Time Collected: 11/19/2012 11:34

Sampling Point: SONGS A

K-40

EPA 901.1

Sample Type: Seawater

365 +/- 23.2

84.9

pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate

Lab 803 (11/07)

	REQUEST FOR SAMPLE	E ANALYSIS (Radiochemical)	
Sanitation and Radiation		* Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, Richmond, CA 94804	G164	11-21-12	17-0672
	10-620-2930	Date & Time Sampled	Serial Number
Attn:	Shiyamalia Rubera	* 11/19/12 1134	R 92346
Collector Information .		Reporting Information	1 32,340
Name: Jenny And	th.	Name: Steve HSU	
Address: 2000 No. 1	phied Environmental Science	Dept./Branch: COPH - RAP	>
0.2/2.26	ful five. Costa Mesa, ca	Address: po Box 99 - 741	4 ms 7610
Telephone No.: -112	850-4830	Telephone No.: 916 -440 -	2 46899 7040 _
Sample Information	Carre	Billing Agency	
Sampling Point (s):	SONGS	DWFOB() RHB	RWQCB() DTSC
, v , v (v).	Δ	D DWTPB FD8 D Cther (Spe	DWR CDFG
System No.:		G Other (Spe	cify)
TYPE OF SAMPLE (Check	k all applicable boxes)	£	* .
Drinking Water	Groundwater	Surface Water	☐ Wastewater
Raw .	☐ Water Treatment Plant (WTP)	Distribution System	Point of Use (POU)
u Treated (circle one): C	hlorinated / Chloraminated / Chlorine Dio	xitle / Ozonated / Peroxizone / Fluor	idated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater	Sludge (Semi-solid Samples)
Finishing:		② ```	☐ Soil/Sediment
		<u> 12</u>	
Net (M³)		SC3	Biota (Type):
☐ Air Charcoal Cartridge	 -	Radon Canister	Other:
- An Onarcoar Carriage			
COMMENTS: (Cautions, e	atc.):		
☐ Field Treatment: Pres	servatives added:/	ced/Frozen: Ot	her:
Field Measurement:		Radionuclide(s), if known:	
Rush/Priority (should be	prearranged and have supervisory appri	mal)	
·	(For questions, please call 510-620-2911)	The state of the s	
☐ Gross Alpha		#	. 3 . 2
⊒ Total Uranium	Gross Beta		
Total Radium	Total Beta	3	
☐ Radium-226	** D Code 44		nericium / Curium
J Radium-228	Carbon-14	(and reproblement to	
Radon-222	☐ lodine-131 ☐ Strontium-6	(m loutopio III	
Other (Specify);	A Company of the Comp	• • •	anium
CHAIN OF CUSTODY		☐ Iron-55	
HAIN OF CUSTODY	Jenny Smith		
Date	Name (Print)		11/20/12 Date
Time Custody Received	Omeni-ation MRC	(but)	<u> </u>
Lime Custody Received	Organization	Signature	Time Custody Released
Date	Name (Print)		Date
Time Custody Received	Organization	ā:	
11 21 12	//A	Signature	Time Custody Released
Date (12	Name (Print)	4 9	Date
Time Custody Received	Organization DWRIB	Simola Culton M. Ol	
		Signature Supplies Signature	Time Custody Released
ABORATORY REMARKS	(Leave Blank)	And fulls	
Condition at Time of Rec Acceptable	☐ Broken Container	UR/HR □ Leaked in Transit	
☐ Holding Time Exceeds	ed D Sample Not Cooled	insufficient Sample	☐ Improper Container
Preservatives/Carriers:			
Q Added While Sampling	Added in Laboratory	☐ Not Added	T: Not Applicable



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0623

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CA 92626

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

Phone Number: 714-850-4830

Sacramento

95814-5006

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / November 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 11/21/2012

Parameter Method Result +/- CE **MDA** 95 Units Lab No: 12-0623-01 Sample ID: R 92349 Time Collected: 11/19/2012 11:34 Sampling Point: SONGS A Sample Type: Seawater Tritium EPA 906.0 -81.7 +/- 142 248 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Lab 803 (11/07)

REQUEST FOR SAMPL	E ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	11-21-12 12-0623
Richmond, CA 94804 510 - 620 - 2930 510-620-2911	Date & Time Sampled Serial Number
Affn: Shiyamalie Rubera	1 11/10/12 1134 R 92349
Collector Information	Reporting Information
Name: Johny Smith	Name: Steve HSU
Name: John / Smith Dept/Branch: MEC Applied Environmental Scient Address: 2000 Red Hill Ave. Costa Mesa, Ca	Address: PO Box 99 -744 MS 7010
92626 Hill Ave. Costa IVESa, Ca	Sacramento, Ca 95899
Telephone No.: 714 - 850 - 4830	Telephone No.: 916-440-7940
Sample Information	Billing Agency
System Name / Facility: SONGS	D DWFOB() XRHB D RWQCB() D DTSC D DWTPB D FDB D DWR D CDFG
	D EMB Other (Specify)
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	<u></u>
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment Plant (WTP)	Surface Water
	• • • • • • • • • • • • • • • • • • • •
Treated (circle one): Chlorinated / Chloraminated / Chlorine Dis	oxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	CONTRACTOR
Starting:	☐ Wipes ☐ Biota (Type):
Net (M³)	Radon Canister
☐ Air Charcoal Cartridge	
M Olistocal Calabage	
COMMENTS: (Cautions, etc.):	/ced/Frozen: Other:
☐ Field Treatment: Preservatives added: (9.1章
☐ Field Measurement:mR/hr	Radionuclide(s), if known:
☐ Rush/Priority (should be prearranged and have supervisory app	proval)
ANALYSIS REQUESTED (For questions, please call 570-620-291	11)*
☐ Gross Alpha ☐ Gross Be	eta Gamma Scan
☐ Total Uranium ☐ Total Beta	ta (LSC)
☐ Total Radium	
☐ Radium-226 ☐ Carbon-1	r fr
C Radium-228 C lodine-13	31 Sotopic Thorium
□ Radon-222 □ Strontium	n-89, 90 🔲 Isotopic Uranium
☐ Other (Specify); ☐ Nickel-63	3 Iron-55
CHAIN OF CUSTODY	I
1. Wight Janu Smith	11/20(1)
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
2. Date Name (Print)	Date
	·
Time Custody Received Organization	Signature Time Custody Released
3. Date (Print)	Date
5 TUN & DWRIB	Truell lle
Time Custody Received / Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank) (M 01	MP/HR
A. Condition at Time of Receipt:	
Acceptable A	☐ Leaked in Transit ☐ Improper Container ☐ Insufficient Sample
	a C illisonicient sempe
B. Profervatives/Carriers: Added While Sampling Added in Laboratory	☐ Not Added ☐ Not Applicable
Viccon intile benchuis — — winds in remineral	M. Mot viernon



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0624

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CA 92626 CDPH - RHB, 1500 Capitol Av., MS 7610 Sacramento

95814-5006 CA

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / November 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 11/21/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0624-01 Sample ID: R 92351 Time Collected: 11/19/2012 11:51 Sampling Point: SONGS B Sample Type: Seawater K-40 EPA 901.1 331 +/- 20.6 77.7 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

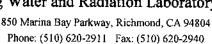
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

P=	REQUEST FOR SA	MPLE ANALYSIS (Ra	adiochemical)		
Sanitation and Radiatio	n Laboratories Branch	Oate I	Received	Lab No. (Leave Blank	<u>)</u>
850 Marina Bay Parkway Richmond, CA 94804 /-	1,6164 510 - 620 - 2930	-11-2	11-12	12-0624	
			me Sampled	Serial Number	
Απτ. ·	Shiyamalie Rubera	11/19/12	1151	R 92351	
Collector Information Name: Jenny Sm	ith	Reporting Infor	mation		9.0
Dept./Branch: Mg A	police Environment S.	Name: Steve	HSU		grand.
Address: 3000 Red	HW Ave. Costa Mera.	Address: PO D	DEH-KAB	Those mere so	
72620 Telephone No.: 70 -	pphed Environmental Sc Hw Ave. Costa Mesq., 850 - 4830	Sacra Sacr	amento, ca	98899	:
Sample Information	_	Billing Agency	916-440	7940	
System Name / Facility:	SONGS	D DWFOB()	∑ RHB □ R	WQCB() DTSC	ľ
Sampling Point (s):	Ω	DWTPB	TO FOB O	WR CDFG	ļ
System No.:	D	О ЕМВ	Other (Speci	fy)	- 1
TYPE OF SAMPLE (Chec	ck all applicable boxes)		"		
Drinking Water	Groundwater	Surface Water	r (T	l Wastewater	
J Raw 3 Treated (sirals and): C	Water Treatment Plant (\	MTP) 🔯 Distribution St	vetem 🗍	Defeat at the AMOUNT	
Treated (circle one); (Chlorinated / Chloraminated / Chlorin	e Dioxide / Ozonated / F	Peroxizone / Fluorid	ated / Coagulated / pH Ad	ljusted
☐ Air Filters	Date/Time	Seawater		Sludge (Semi-solid Sam	niec)
Finishing:		Milk		Soil/Sediment	(Pica)
Starting:	<u>.</u>	Wipes		Biota (Type):	
Net (M³)		Radon Caniste		Other:	
Air Charcoal Cartridge			_	Other.	 .
OMMENTS: (Cautions,	etc.):			<u> </u>	
Field Treatment: Pre		_/ ced/Frozen:		e en antida de la compansión de la compa	St. en mitter in værer 19
Field Measurement:	mR/hr	10 10 10 10 10 10 10 10 10 10 10 10 10 1	Othe	er	
	e prearranged and have supervisory	ာက်ကို၏) (Samulal)	s), if known:		
			<u> </u>	······································	
Gross Alpha	(For questions, please call 510-620-				
Total Uranium	Gross	-	Gamma Sca		
Total Radium		Beta (LSC)	NORM (Gam	*	,
Radium-226	Carbo	n (*H) [☐ isotopic Ame		₹ - ;
Radium-228	G lodiné	5	☐ Isotopic Plute		
Radon-222		ium-89, 90	☐ Isotopic Thor		
Other (Specify);			☐ Isotopic Uran	ium	
HAIN OF CUSTODY	- A Mickey	-03	☐ Iron-55	<u> </u>	
11/19/12	- Lenne Smoth			Marka	
Date 1	Name (Print)	<u></u>		Date (ZO / 12	-
Time Custody Received	Organization	Signature	- Li	- 1700 -	
Date	No (De o			Time Custody Release	ed
	Name (Print)	*		Date	_
Time Custody Received	Organization	Signature		Time Custody Release	<u>.</u>
Date (Date	Name (Print)	•			u _
11:40	מולודוה	19.1.	- MAL	Date	- . Z)
Time Custody Received	Organization	Signature Country		Time Custody Release	
BORATORY REMARKS	(Leave Blank) $\leq 0.01~U$	OHR			
Condition at Time of Rec	Broken Container	to an experience of the control of t	<u>.</u>		
 Holding Time Exceeds 	ed G Sample Not Cooled	Q Leaked in Trans Insufficient Sam	in Iole	☐ Improper Container	
Preservatives/Carriers:					
Added While Sampling	Added in Laboratory	☐ Not Added		C) Alex Acceptance	



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0625

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

CA 95814-5006

CA Phone Number: 714-850-4830 Sacramento

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / November 2012

Billing Agency: RHB

Samples Received by Lab: 11/21/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0625-01 R 92352 Sample ID: Time Collected: 11/19/2012 11:51 Sampling Point: SONGS B Sample Type: Seawater Tritium EPA 906.0 9.73 +/- 145 248 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SAMPLE	ANALYSIS (Radio	chemical)	
Sanitation and Radiatio	n Laboratories Branch	Date Rece	ived	Lab No. (Leave Blank)
850 Marina Bay Parkway	, G164	11-21-	12	12-0625
510-620-2911	510 - 620 - 2930	Date & Time S		Serial Number
Altn: S	Shiyamalie Rubera	1 1 .	1151	R 92352
Collector Information		Penarting Informat		N 32332
Name: Johny Smi	the plied Environmental Sciences	Name: Showe H	જા)	
Address: 30-00 AC	plied Environmental Sciences	Dept./Branch: CD	PH-RHB	
92626	titul 140 - Cosia integal Car		99-7414	ms 7610
Telephone No.: 714-	850 - 4830	Telephone No.: 9	mento, ca	7640
Sample Information	0 - 1 - 0 - 0	Billing Agency		1
System Name / Facility: Sampling Point (s):	2011 CB 2	DWFOB()	ZKRHB □ R	WQCB() DTSC
Company Care (9).	\mathcal{D}		🕽 FDB 🖸 D	WR CDFG
System No.:	D	DEMB (Other (Speci	fy)
TYPE OF SAMPLE (Chec	k all applicable boxes)	¥.	· · · ·	
☐ Drinking Water	☐ Groundwater	Surface Water		l Wastewater
Raw	■ Water Treatment Plant (WTP)	Distribution Syste	m 🗍	Point of Lise (POLI)
☐ Treated (circle one): C	hlorinated / Chloraminated / Chlorine Diox	de / Ozonated / Pero	xizone / Fluorid	ated / Coagulated / pH Adjusted
☐ Air Filters		Seawater		
Finishing:		Milk		Sludge (Semi-solid Samples)
		5.		Soil/Sediment
Net (M ³)		Wipes		Biota (Type):
Air Charcoal Cartridge		Radon Canister		Other:
A All Charcoal Cartridge				
COMMENTS: (Cautions, e	etc.):		s. 1. '1'	e salah
☐ Field Treatment: Pre		sed/Frozen:	Othe	er:
☐ Field Measurement:		Radionuclide(s), i		
Rush/Priority (should be	e prearranged and have supervisory appro	val)		-
	(For questions, please call 510-620-2911)	<u>K </u>	· · · · · · · · · · · · · · · · · · ·	
☐ Gross Alpha	· 1 j	-		
☐ Total Uranium	☐ Gross Beta		Gamma Sca	
☐ Total Radium	☐ Total Beta (13.	NORM (Gam	•
□ Radium-226	Tritium (³ H)			ericium / Curium
Radium-228	Carbon-14		Isotopic Plute	
Radon-222	□ lodine-131		Isotopic Thou	
Other (Specify);	Strontium-89	-	☐ Isotopic Urar	nium
CHAIN OF CUSTODY	Nickel-63		lron-55	
I. 11/10/1004	Jenny Smoth	_		1 1
Date	Name (Print)	\cap		11/20/12
Time Custody Received	- MBC	Leun	2 1 ~)700 s
Time Custody Received	Organization	Signature		Time Custody Released
Date	Name (Print)	, v C		Date
Time Custody Received	O-rock at a second		<u> </u>	- Late
- 11-2/-12	Organization	Signature		Time Custody Released
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		Signature Communication Signature	wy w	Time Custody Released
ABORATORY REMARKS	(Leave Blank) 4 0.01 W	PIHP		
. Condition at Time of Rec				
O Polding Time Exceed	ed Sample Not Gooled	Leaked in Transit Insufficient Sample		☐ Improper Container
Preservatives/Cerriers:				
Added While Samplin	Q Added in Laboratory	Not Added		



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0626

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHR

MBC Applied Environmental Science, 300 Costa Mesa

CA

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

92626

Sacramento

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / November 2012

Billing Agency: RHB

Samples Received by Lab: 11/21/2012

Parameter Method Result +/- CE MDA 95 Units Sampling Point: SONGS C Lab No: 12-0626-01 Time Collected: 11/19/2012 11:42 Sample ID: R 92354 Sample Type: Seawater K-40 EPA 901,1 82.5 451 +/- 22.7 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	1-21-12	12-0626
Richmond, CA 94804 510 - 620 - 2930	Date & Time Sampled	Serial Number
510-620-2911 Attn: Sh. yamalie Rubera	11/19/12 1142	R 92354
II Oliootor intormation		
Name: Jenny Smuth Dept./Branch: MBC Applied Enuronmental Sciences Address: 3000 Red Hill Ac Costa Mesq, Ca Telephone No.: -714-8518-4830	Name: Grove HSU	
Address: 2000 RAPPlied Enuronmental Sciences	Dept./Branch: COPH - RHB	·
- 924210 Hul AC Costa Mesa, Ca	10 Box 99, 7414	- ms 7610
Telephone No.: -710-950-4930	Telephone No. Camento Ca	95899
	tenning Agency	
System Name / Facility: SONGS		WQCB() DIDTSC
	D DWTPB D FDB D DI	
System No.:	- Line Gpeci	y)
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	Surface Water	Wastewater
— '' - '' - '' - '' - '' - '' - '' - ''	■ Distribution System	Point of Hear (DOLD)
☐ Treated (circle one): Chlorinated / Chlorinated / Chlorine Dio	ide / Uzonated / Peroxizone / Fluorida	ited / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater	Sludge (Semi-solid Samples)
Finishing:		Soil/Sediment
Starting:	MT 1414	Biota (Type):
Net (M³)	<u>-</u> ` _ `	
☐ Air Charcoal Cartridge	i i i i i i i i i i i i i i i i i i i	Other:
COMMENTO (O. C.		
COMMENTS: (Cautions, etc.):		<u> 1888 - San Barana, kanada ka</u>
<u> </u>	ed/Frozen: Othe	r:
☐ Field Measurement:mR/hr	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory appro	val)	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)		
☐ Gross Alpha ☐ Gross Beta	Gamma Scar	
☐ Total Uranium ☐ Total Beta	SC) NORM (Gam	
☐ Total Radium ☐ Tritium (3H)	☐ Isotopic Ame	•
☐ Radium-226 ☐ Carbon-14		
☐ Radium-228 ☐ Iodine-131-		
☐ Radon-222 ☐ Strontium-8:	9, 90 🚨 Isotopic Uran	•
☐ Other (Specify); ☐ Nickel-63	□ iron-55	
CHAIN OF CUSTODY		
1 11/19/12 - kny Smith	·.	ulonla
Date Name (Date)		
Date Name (Print)		Date
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Time Custody Received Organization	some way of the	Date Time Custody Released
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Date Name (Print) Time Custody Received Date Name (Print) Time Custody Received Organization Organization	Signature	Date Time Custody Released
Date Name (Print) Time Custody Received Date Name (Print) Time Custody Received Organization Name (Print) Name (Print)	Signature OM a /	Date
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Date Name (Print) Time Custody Received Date Name (Print) Time Custody Received Organization Organization ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Acceptable D Broken Container	Signature Tutorio Milli	Date Time Custody Released Date
Date Date Name (Print) Organization Date Name (Print) Time Custody Received Date Name (Print) Time Custody Received Organization Name (Print) Time Custody Received Organization Name (Print) Time Custody Received Organization Organization Date Da	Signature Mills	Date Time Custody Released Date Time Custody Released



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0627

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

ÇA Phone Number: 714-850-4830

Sacramento

95814-5006

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP . November 2012

Billing Agency: RHB

Samples Received by Lab: 11/19/2012

Parameter

Method

Result +/- CE

MDA 95

Units

Lab No: 12-0627-01

Sample ID: Sample Type: Seawater Time Collected: 11/19/2012 11:42

Sampling Point: SONGS C

Tritium

EPA 906.0

R 92357

60.3 +/- 146

248

pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2,22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Lab 803 (11/07)

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804, Full Carlotte (CA 94804)	11-21-12	12-0627
Richmond, CA 94804 510 - 620 - 2930 510-620-2911	Date & Time Sampled	Serial Number
Atn: Shiyamalik Rubera	11/19/12 1142	L R 92357 ∣
Collector Information	Reporting Information	
Name: Lennusmeth	Name: Stove Hou	
Dept./Brahan: MR. Applied Environmental Sciences Address: 3000 Red Hul Ave. Costa Mesa, Cas	Dept./Branch: CDPH-RHB Address: PO Box 90-74	4 100 77610
	Sacramento, Ca	9 1113 (010 95894:
Telephone No.: 7144 850 - 4830	Telephone No. 916-440-	7940
System Name / Facility: SONGS	Billing Agency DWFOB() XRHB	DIMOOD () D DTOO
Sampling Point (s):		RWQCB() DTSC DWR DCDFG
System No.:		cify)
TYPE OF SAMPLE (Check all applicable boxes)		
		<u>_ </u>
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	Surface Water Distribution System	☐ Wastewater ☐ Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	de / Ozonated / Peroxizone / Fluor	idated / Coagulated / pH Adjusted
		· · · · · · · · · · · · · · · · · · ·
☐ Air Filters Date/Time	<u> </u>	☐ Sludge (Semi-solid Samples)
Finishing:	-2 ··	☐ Soil/Sediment
Starting:		☐ Biota (Type):
Net (M³)	Radon Canister (☐ Other:
Air Charcoal Cartridge		
COMMENTS: (Cautions, etc.):		
☐ Field Treatment: Preservatives added:	ced/Frozen: Ot	her
☐ Field Measurement:mR/hr	2 Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory appro	<u> </u>	
ANALYSIS REQUESTED (For questions, please call 510-620-2914)		
☐ Gross Alpha ☐ Gross Beta	<u>_</u>	
☐ Total Uranium ☐ Total Beta		
☐ Total Radium ☐ Tritium (³ H)		· ·
☐ Radium-226 ☐ Carbon-14		nericium / Curium
☐ Radium-228 ☐ lodine-131		•
☐ Radon-222 ☐ Strontium-8		3
☐ Other (Specify); ☐ Nickel-63	☐ Iron-55	anan
CHAIN OF CUSTODY		
1. 11/19/12 PMU moth		ulanta
Date (Print) Name (Print)		Date
Time Custody Received Organization	agneting Why	me Custody Released
Date Name (Print)		Date
Time Custody Received Organization	Signature Signature	Time Custody Released
Date Warne (Print)	1944.	
- WELPS	Signature www. Well.	Date
Time Custody Received Organization	Signature allower was	Time Custody Released
ABORATORY REMARKS (Leave Blank)		
Condition at Time of Receipt:		
Acceptable	Q Leaked in Transit Q Insufficient Sample	G Improper Container
Preservatives/Carriers;	ж тэхни га ан эмирка	
☐ Added While Sampling ☐ Added in Laboratory	法 经海损 医骶骨 美国美国	ここが さいじちゃなん ころきょうん



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0628

Collector:

James Nunez

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science 3000

Sacramento

CDPH - RHB, 1500 Capitol Av., MS 7610 95814-5006 CA

Costa Mesa

CA Phone Number: 714 850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / November 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 11/21/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0628-01	Sample ID: R 92359 Sample Type: Seawater	Time Collected: 11/19/2012 1	0:05 Sampling Point	: SONGS D
K-40	EPA 901.1	338 +/- 18.3	64.2	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510 - 620 - 2930 510-620-2911 Alth: Shiyamalic Ruberra REQUEST FOR SAMPLE ANALYSIS (Radiochemical) Date Received Lab No. (Leave Bla 12 - 0 62 Date & Time Sampled Serial Number R 9235	
850 Marina Bay Parkway, G164 Richmond, CA 94804 5(0 - (e20 - 2930) 510-620-2911 Albo: Shuttamakia 87 years	nk)
510-620-2911 Allin Shuttamaka Serial Number	
Million Shirliamaka 12 yan	<u> </u>
R 9235	al
Collector Information Reporting Information	3
Name: Jayres NUNEZ Mame: Steve HSU	ľ
Address: 2370 Photos Environmental Science Dept. Branch: CDPH-RHB	
92626 Hill Ave. Costa Mesa Ca POBOX 99-7414 ms 7610	. 1
Name: Jawis Nunez Dept/Branch: MBC Applied Environmental Sciences Dept/Branch: CDPH-RHB Address: 3000 Red Hill Are. Costa Mesa Ca Telephone No.: TIA-980-4830 Sample Information Billing Agency Name: Steve Hsu Dept/Branch: CDPH-RHB Address: PO BOX 99-7414 MS 7610 Sacramento Ca 95899 Billing Agency Billing Agency	•• [
Isampling Point (e) COVIVIDE POINT POI	c I
□ CDF	G
Caystein No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
Drinking Water Groundwater Surface Water Wastewater	
Water Treatment Plant (WTP) Distribution System	
☐ Treated (circle one): Chlorinated / Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / PH	Adjusted
☐ Air Filters Date/Time Seawater ☐ Sludge (Semi-solid Sa	
Finishing: Milk Soil/Sediment	ampies)
Starting	
Net (M ³)	
☐ Radon Canister ☐ Other:	
COMMENTS: (Cautions, etc.):	
Field Treatment: Preservatives added:Other:Other:	· S. S. F. L. F. C.
☐ Field Measurement:mR/hr ☐ Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory appropal)	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
Conen Alaba	
Takal Landing	^
Total Beta (SC) NORM (Gamma)	
☐ Total Uranium ☐ Total Beta (SC) ☐ NORM (Gamma) ☐ Total Radium ☐ Tritium (³H) ☐ Isotopic Americium / Curium	
☐ Total Uranium ☐ Total Beta (ISC) ☐ NORM (Gamma) ☐ Total Radium ☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium ☐ Isotopic Plutonium	
☐ Total Uranium ☐ Total Beta (SC) ☐ NORM (Gamma) ☐ Intitium (H) ☐ Radium-226 ☐ Carbon-14 ☐ Isotopic Plutonium ☐ Radium-228 ☐ Redon-223 ☐ Redon-223 ☐ Description	
Total Uranium Total Beta (SC) NORM (Gamma) Tritium (³H) Radium-226 Carbon-14 Isotopic Plutonium Radium-228 Radon-222 Strontium-89, 90 Isotopic Uranium	
Total Uranium Total Radium Total Radium Radium-226 Radium-228 Radon-222 Total Beta (SC) NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium Isotopic Uranium Isotopic Uranium	
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Total Uranium Total Radium Total Radium Tritium (³H) Radium-226 Radium-228 Radium-228 Radium-229 Radium-229 Strontium-89, 90 Isotopic Plutonium Isotopic Thorium Isotopic Uranium Other (Specify): Nickel-63 Iron-55 CHAIN OF CUSTODY Image: Print Custody Received Organization Name (Print) Time Custody Received Organization Name (Print) Name (Print	sed
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Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0629

Collector:

James Nunez

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science 3000

CDPH - RHB, 1500 Capitol Av., MS 7610

95814-5006 CA

Costa Mesa

CA

Sacramento

Phone Number: 714 850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / November 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 11/21/2012

Parameter

Tritium

Method

Result +/- CE

MDA 95

Units

Lab No: 12-0629-01

Time Collected: 11/19/2012 10:05

Sampling Point: SONGS D

R 92360 Sample ID: Sample Type: Seawater

EPA 906.0

1.95 +/- 145

248

pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	11-21-12	12-0621
Richmond, CA 94804 50 - 620 - 2930	Date & Time Sampled	Serial Number
Alth Shiyamalie Rubera	11/19/12 1005	R 92360
Collector Information	Reporting Information	
Name: James Nurez.	Name: Steve HSV	
Dept./Branch: MBC Applied Environmental Science	Dept./Branch: CDPH - RHP	
Address: 3000 Red Hill Ave. Costa Mesa,	Address: PO BOX 99	7414 MS 7610
Telephone No.: 24-850 - 4835	Telephone No. 9161-440 Billing Agency	7940
Sample Information		
System Name / Facility: SONGS		DIRWQCB() DIDTSC
Continuing Court (a).	D DWTPB	
System No.:	— Line (-)	
TYPE OF SAMPLE (Check all applicable boxes)		
Drinking Water Groundwater	Surface Water	□ Wastewater
Raw Water Treatment Plant (WTP)	-	Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	de / Ozonated / Peroxizone / Piu	oridated / Coagulated / pm Adjusted
☐ Air Filters Date/Time	Seawater	 Sludge (Semi-solid Samples)
Finishing:	Milk 💣	☐ Soil/Sediment
Starting:	Wipes /	□' Biota (Type):
Net (M³)	Radon Canister	Other:
☐ Air Charcoal Cartridge		
		
COMMENTS: (Cautions, etc.):		Company of the Compan
		Other:
	Radionuclide(s), if known: _	
 Rush/Priority (should be prearranged and have supervisory approx 	tioi)	
Transfer flority (should be prearranged and have supervisory apply)	g cary	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	<u></u>	
		Scan
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	♂ Gamma	
ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Gross Beta	Gamma	
ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Total Uranium Total Beta	Gamma (SC) INORM (Gamma) Americium / Curium
ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 I lodine-131-	Gamma SC) NORM (Isotopic Isotopic	Gamma) Americium / Curium Plutonium
ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radon-222 Strontium-8	Gamma LSC)	Gamma) Americium / Curium Plutonium Thorium
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ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radon-222 Other (Specify): CHAIN OF CUSTODY	Gamma LSC)	Gamma) Americium / Curium Plutonium Thorium
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ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 I lodine-131- Radon-222 Other (Specify): CHAIN OF CUSTODY Name (Print) Name (Print) Mod Again of Equipment (Specify): Organization	Gamma LSC)	Gamma) Americium / Curium Plutonium Thorium Uranium
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ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Total Uranium Total Betandary Tritium (3H) Radium-226 Radium-228 I lodine-131- Radon-222 Other (Specify); Nickel-63 CHAIN OF CUSTODY Name (Print) Time Custody Received Name (Print) Name (Print) Name (Print) Name (Print)	Gamma LSC)	Gamma) Americium / Curium Plutonium Thorium Uranium Indian Indi
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Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0534

Collector:

Wayne Dossett

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Sciences, 30 Costa Mesa

CA 92626

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

Sacramento

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / October 1012

Billing Agency: RHB

Samples Received by Lab: 10/17/2012

Parameter

Method

Result +/- CE

MDA 95

Units

Lab No: 12-0534-01

Sample ID: R 92278 Sample Type: Seawater Time Collected: 10/15/2012 13:31

Sampling Point: SONGS A

K-40

EPA 901.1

346 +/- 18.0

62.7

pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

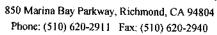
⁽²⁾ CF is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22. the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SAMPL	E ANALYSIS (Rad	iochemical)	
Sanitation and Radiation L	aboratories Branch	Date Re	ceived	Lab No. (Leave Blank)
850 Marina Bay Parkway, G1		10-17-		
Richmond, CA 94804	5 - 620 - 2930	Date & Time	Samulad	12,0534
510-620-2911	niyamalia Rubera	Date of Time		Serial Number
Collector Information	Miganaca Russia		1331_	R 92278
Name: Wayne Do	C 3 03 D	Reporting Inform	ation	
Dept./Branch: roward A	and the contract of the contra	Name: Steve	HSU	
Address: 3000 Red	plied Environmental See	#Address: □/\ □	75H - KH6	3
Costa Mes	HUL AVE	C(1/C)	0° 99.74	14 MS 7610
Telephone No.: TILA 8	5 - 40 35	Telephone No.:	1110 - A10 =	14 MS 7610 3695899
Sample Information	- 0	Billing Agency	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
System Name / Facility: Sampling Point (s):	2010/07	. 💭 DWFOB ()	Æ RHB □ F	RWQCB() DTSC
Camping Cont (s).	\wedge	JU DWTPB	`O`FDB 🛄 D	WR D CDFG
System No.:	. 17	□ EMB	Other (Special	fy)
TYPE OF SAMPLE (Check at	d anningble hoves)	<u> </u>	·	
☐ Drinking Water	Groundwater	D 6 4	_	
C Raw	☐ Water Treatment Plant (WTP)	☐ Surface Water ☐ Distribution Sve	tem [Wastewater
☐ Treated (circle one): Chlor	rinated / Chloraminated / Chlorine Dio	vide / Ozonated / De	rovizono / Element	Point of Use (POU)
	- Children Dio	Aide / Czonated / Fe	ituxizurie / Fluorio	lated / Coagulated / pH Adjust
☐ Air Filters	Date/Time	Seawater Seawater		Sludge (Semi-solid Sample:
Finishing:		Milk		Soil/Sediment
Starting:		☑ Wipes		
Net (M³)	<u></u>	Radon Canister		Biota (Type):
☐ Air Charcoal Cartridge		Tradon Camaler		Other:
		()		<u> </u>
COMMENTS: (Cautions, etc.)	#		-	
☐ Field Treatment: Preserv	vatives added:	lced/Frozen:	Oth	Service Servic
☐ Field Measurement:	· · · · · · · · · · · · · · · · · · ·	□ Radionuclide(s)		эг
.□ Rush/Priority (should be pri	earranged and have supervisory appr		, II KIIOWII,	,
	177	<u> </u>		Service Control
	questions, please call 510-620-2911			· ·
Gross Alpha	☐ Gross Beta		Gamma Sca	ın .
🖫 Total Uranium	Total Beta	(LŠC)	NORM (Gan	
☐ Total Radium	🗅 Tritium ([‡] H) a 4		ericium / Curium
Radium-226	☐ Carbon-14		☐ Isotopic Plut	
☐ Radium-228	☐ lodine-131	25 - 5	☐ Isotopic Tho	
☐ Radon-222	☐ Strontium-t		☐ Isotopic Urai	
Other (Specify);	□ Nickel-63		Iron-55	ii u ii
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Date N	ame (Print)	·* // /	<u> </u>	Date 12
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Acceptable Holding Time Exceeded	Broken Container	 Leaked in Transit 		Improper Container
	☐ Sample Not Cooled	Insufficient Samp	le de la company	
B. Preservatives/Carriers: Q. Added While Sampling				
- Contract same Officials	Added in Laboratory	☐ Not Added	and a terms when the color	Maj Amatanhia



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0535

Collector:

Wayne Dossett

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Sciences, 30

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

Costa Mesa

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / October 2012

CA

Billing Agency: RHB

Samples Received by Lab: 10/17/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0535-01 Sample ID: R 92279 Time Collected: 10/15/2012 13:31 Sampling Point: SONGS A Sample Type: Seawater Tritium EPA 906.0 -182 +/- 148 261 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FO	R SAMPLE ANALYSIS (Rad	fiochemical)	
Sanitation and Radiation Laboratories Branch	Date Re		Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804	* 10-17	-12	12-0535
510-620-2911. 510-620-2930	Date & Tim		Serial Number
Attn Shiyamala Rub	Dera 10/15/12	1331	R 92279
Collector Information	Reporting Inform	ation	N SEKIS
INDIE LOGINUMO A MASSOCIALE CANTER	Name Clark	e Heir	÷.
	、 t A 🚁 🦯 JDOOG/Branch: 🦯 🗗	としんしょく としんしん	
Address: 92626 Fed FACT Ave. Costa	Address: PO	30× 99-74	114 m/s 7610
Telephone No.: 714 - 850 - 4830	Telephone No	cimento, C	114 ms 7610
Sample Information	Telephone No.: /	(110 - 4 40 -	. 7940
System Name / Facility: SONGS	DWFOB()	SKRHB □ R	WQCB() DTSC
Sampling Point (s):	DWTPB	(D)FDB (D)D	WR CICDEG
System No.:	O EMB	Other (Special	fy)
TYPE OF SAMPLE (Check all applicable boxes)	· ·		
☐ Drinking Water ☐ Groundwater	Surface Water		
☐ Raw ☐ Water Treatment F	Plant (WTP) 🔘 Distribution Sys	stem 🗆	Wastewater Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorinated / Chlori	hlorine Dioxide / Ozonated / Pe	eroxizone / Fluorid	ated / Coagulated / nH Adjusted
-			·····
☐ Air Filters Date/Time Finishing:	Seawater		Sludge (Semi-solid Samples)
	Milk		Soil/Sediment
Starting:	Wipes		Biota (Type):
Net (M³)	🖳 Radon Canister		Other:
Air Charcoal Cartridge		•	
COMMENTS: (Cautions, etc.):			
Field Treatment: Preservatives added:	lced/Frozen:		1
Field Measurement: mR/	The state of the s		ər
Rush/Priority (should be prearranged and have super	, — · ·——· · · · · · · · · · · · · · · ·), if known:	
		<u></u>	
ANALYSIS REQUESTED (For questions, please call 51	0-620-2911)		•
	Gross Beta 🖫	Gamma Sca	ın · ·
	Total Beta (LSC)	☐ NORM (Garr	nma)
	-Tritium (³H) 🖟	☐ Isotopic Ame	
	Carbon-14 🌲	☐ Isotopic Plut	
	lodine-131	☐ Isotopic Tho	rium
	Strontium-89, 90	☐ Isotopic Urer	
••••··································	Nickel-63	☐ fron-55	•
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10/15/12 Jayre 100			10/16/13
Date / Name (Print)	Alla a 6	SINOTH	Date
Time Custody Received Organization	Signature	CANTON	Time Custody Released
Date Name (Print) Smith	^ ~ /		
0820 WRC	6/4	$(.)\cdot$	Date
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Date Name (Print)			<u> </u>
	a 19.0	011/001	Date
Time Custody Received Organization	Signature	TO M CHU	Time Custody Released
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	ed Insufficient Samp	Xe	
Preservatives/Carriers: Q Added While Sampling Q Added in Laborat		建设多数10分	
Added While Sampling	ory 3 Not Added		Not Applicable



State of California - Health and Human Services Agency

California Department of Public Health



RHB

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0536

Collector: Wayne Dossett RHB Requestor: Roger Lupo

> MBC Applied Environmental Sciences, 30 COPH - RHB, 1500 Capitol Av., MS 7610 CA 95814-5006 92626 Sacramento Costa Mesa CA

Phone Number: 714-850-4830 Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / October 2012

Samples Received by Lab: 10/17/2012 Billing Agency: RHB System No:

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0536-01	Sample ID: R 92280 Sample Type: Seawater	Time Collected: 10/15/2012 13:45	Sampling Point:	SONGS B
K-40	EPA 901.1	289 +/- 22.0	84.8	pCi/l.

Task ID: 12-0536 Page 1 of 1

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)				
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)			
850 Marina Bay Parkway, G164	10-17-12 12-0536			
Richmond, CA 94804 510-620-2911 510-620 - 2930	Date & Time Sampled Serial Number			
Ath: Shiyamalia Rubera	10/15/12 1345 R 92280			
Collector Information	Reporting Information			
Name: Wayne Dossett	Name: Stere HSU			
Dept./Branch: MBC Applied Environmental Scool	Dept./Branch: CDPH ~ RHB			
Dept./Branch: MBC Applied Environmental Second Address: 3000 Ben HU Ave. Costa Mesa, Costa	Popt/Branch: CDPH - RHB Address: PO Box 99-7414 MS 7610			
Telephone No.: 344 -850 -48-0	Telephone No.: Olf -AAO - 12A			
Sample information	Spittling Agency			
System Name / Facility: SONGS	D DWFOB() RHB D RWQCB() DTSC			
Samping Font (s).	DWTPB DDWR DCDFG DEMB DOther (Specify)			
System No.:	☐ EMB ☐ Other (Specify)			
TYPE OF SAMPLE (Check all applicable boxes)	William Control of the Control of th			
☐ Drinking Water ☐ Groundwater	■ Surface Water □ Wastewater			
☐ Raw ☐ Water Treatment Plant (WTP)	Distribution System Point of Use (POU)			
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dio	xide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted			
☐ Air Filters Date/Time	Seawater			
Finishing:	Milk D Soil/Sediment			
Starting:	Ü Wipes ☐ Biota (Type):			
Net (M ³)				
□ Air Charcoal Cartridge	Radon Canister Other:			
☐ Air Charcoai Caitrioge				
COMMENTS: (Cautions, etc.):				
☐ Field Treatment: Preservatives added:	Ced/Frozen: Other:			
· · · · · · · · · · · · · · · · · · ·	Radionuclide(s), if known:			
Rush/Priority (should be prearranged and have supervisory appro				
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	10			
☐ Gross Alpha ☐ Gross Beta				
☐ Total Uranium ☐ Total Beta	1			
☐ Total Granium ☐ Total Beta				
☐ Radium-226 ☐ Carbon-14	• • • • • • • • • • • • • • • • • • • •			
	. —			
☐ Radium-228 ☐ Iodine-131 ☐ Radon-222 ☐ Strontium-6				
☐ Other (Specify); ☐ Nickel-63				
	□ Iron-55			
1. 10/15/12 Louye Date Name (Print)	Date 10/16/12			
1245	South Miller Of MINING ACO TO			
Time Custody Regived Organization	Signature Time Custody Released			
2. Date Name (Print)	Date 0/16/12			
<u> </u>	Tobacca E Mi			
Time Custody Received Organization	Signature Time Custody Released			
3. Date Name (Print)	Date			
10:30 DURLB.	- Uniona Miller			
	Signature Time Custody Released			
LABORATORY REMARKS (Leave Blank)	201.10			
A. Condition at Time of Receipt:	MR/UR			
Q Acceptable Q Broken Container Q Holding Time Exceeded Q Sample Not Cooled	☐ Leaked in Transit ☐ Improper Container ☐ Insufficient Sample			
B. Preservatives/Carriers:				



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0537

Collector:

Wayne Dossett

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Sciences, 30 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610 ÇA

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / October 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 10/17/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0537-01 Sample ID: R 92282 Time Collected: 10/15/2012 13:45 Sampling Point: SONGS B Sample Type: Seawater Tritium EPA 906.0 -250 +/- 147 261 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	10-17-12 12-0527
Richmond, CA 94804 510-620-2911 510-620 - 2930	Date & Time Sampled Serial Number
Athr Shyannatie Rubera	10/15/12 1205 R 92282/
Collector Information	Reporting Information
Name: Warphe Dossett	Name: GCIP H.
Dept. Branch: MBC Applied Environmental Sector	Dept./Branch: COOH - RUR
Asia 2 Catalana Castalana	Midress: PO Box 99-7414 MS 7610
Name: Warme Dossett Dept/Branch: MBC Applied Environmental Secret Address: 2000 Red Hill Ave. Costantes a Cal Telephone No.: 714-850-4230	Telephone No.: Q1/ - 100 C 95899
Sample information	Billing Agency
System Name / Facility: SONG	DWFOB() DXRHB D RWOCR() DIDTSC
Sampling Point (s).	DWTPB D FDB D DWR D CDFG
System No.:	☐ EMB **/ ☐ Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater	☐ Surface Water ☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WTP)	Distribution System Depoint of Use (POLI)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dio:	xide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
Finishing:	(
	- Compounter
Net (M³)	☐ Wipes ☐ Biota (Type):
☐ Air Charcoal Cartridge	☐ Radon Canister ☐ Other:
— Al Onalood Calainge	
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	ced/Frozen: Other:
☐ Field Measurement: mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory appro	oval)
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
The	•
D Table	a samua soan
· otal Detail	- Mariniay
	· · · · · · · · · · · · · · · · · · ·
— Carboni 1-	
Todille-151	☐ Isotopic Thorium
CHAIN OF CUSTODY	
Date Name (Print)	10/16/12
1345 mer	May by a Desc
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	10/16/12
-0870 mB(Date
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	Date Date
10:30 DWRLB	(() star a VI. U) Vo.
Time Custody Received Organization	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank)	
Condition at Time of Receipt:	MKIHK
D Lauring Time Towns and The Control C	☐ Leaked in Transit ☐ Improper Container ☐ Insufficient Sample
Preservatives/Carriers:	A SINNINGER OWN HOW
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Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0538

Collector: Wayne Dossett RHB Requestor: Roger Lupo RHB

MBC Applied Environmental Sciences, 30 CDPH - RHB, 1500 Capitol Av., MS 7610 Costa Mesa CA 92626 Sacramento CA 95814-5006

Phone Number: 714-850-4830 Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / October 2012

System No: Billing Agency: RHB Samples Received by Lab: 10/17/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0538-01	Sample ID: R 92285 Sample Type: Seawater	Time Collected: 10/15/2012 13	3:39 Sampling Poin	t: SONGS C
K-40	EPA 901.1	327 +/- 21.2	81.5	pCi/L

Page 1 of 1 Task ID: 12-0538

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22. the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

13	REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiatio	n Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway Richmond, CA 94804		10-17-12	17 1528
1510-620-2911	510-620-2930	Date & Time Sampled	Serial Number
Attn: Sv	riyamalle Rubera	10/15/12 1339	R 92285
Cellector Information		Reporting Information	N JZZOJ
Name: Watthe Do	Sight -	Mamor of the later	
Address:	ppiled interbuliental seemel	Dept./Branch: CDPH - RHR)
92626	Policy Environmental Scenar	Address: PO BOX 99-7	414 MS 7610
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	350 - 4830	elephone No.: (111 - A/)	0.95809
Sample Information System Name / Facility:		igning Agency	
Sampling Point (s):	>0N05	DWFOB() CRHB	RWQCB() DTSC
-		D DWTPB D FDB D [DWR CDFG
System No.:		D EMB D Other (Spec	my)
TYPE OF SAMPLE (Chec	k all applicable boxes)	数 .	
☐ Drinking Water ☐ Raw	Groundwater	☐ Surface Water [3 Wastewater
	☐ Water Treatment Plant (WTP)	⁽ □ Distribution System □	Doint of the COOLS
	hlorinated / Chloraminated / Chlorine Dio	dae / Ozonated / Peroxizone / Fluoric	lated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater [Sludge (Semi-solid Samples)
Finishing:	* to return		Soil/Sediment
Starting:			· · · · · · · · · · · · · · · · · · ·
Net (M³)			Biota (Type):
Air Charcoal Cartridge			Other:
COMMENTO: (OV			
COMMENTS: (Cautions, e	distribution of the contract o		The second secon
☐ Field Treatment: Pres		lded/Frozen:Offi	er:
☐ Field Measurement:	mR/hr The state of the sta	₩ Radionuclide(s), if known:	
50.7	prearranged and have supervisory appro	<u> </u>	٠.
ANALYSIS REQUESTED (For questions, please call 510-620-2911)		
☐ Gross Alpha	☐ Gross Beta	Gamma Sca	nn
☐ Total Uranium	☐ Total Beta	LSC) NORM (Gar	
Total Radium	☐ Tritium (³H)		ericium / Curium
Radium-226	☐ Carbon-14	☐ Isotopic Plut	
Radium-228	☐ lodine-131		
Radon-222	☐ Strontium-8	9, 90 🔲 Isotopic Ura	
Other (Specify);		☐ Iron-55	
HAIN OF CUSTODY	- 11		
Date 0/15/12	Name (Print)		10/1/0/12
1339		haland Min	Date
Time Custody Received	Organization	Sana re	Time Custody Released
Date 12	Name (Print)		10/16/12
- 0820	- MBC		Date
Time Custody Received	Organization	Signature	Time Custody Released
Date	Name (Print)		•
Time Custody Received	DWRLB	19 July On	Date
_		Signature Signature	Time Custody Released
ABORATORY REMARKS	(Leave Blank) < 0.0 (WR/140	
Condition at Time of Rece - Acceptable			
Holding Time Exceeded		Leaked in Transit Insufficient Sample	☐ Improper Container
Preservatives/Carriers;			
☐ Added While Sampling	Added in Laboratory (Not Added	



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0541

Collector:

Wayne Dossett

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Sciences, 30

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

Costa Mesa

Sacramento

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / October 2012

ÇA

System No:

Billing Agency: RHB

Samples Received by Lab: 10/17/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0541-01 Sample ID: R 92286 Time Collected: 10/15/2012 13:39 Sampling Point: SONGS C Sample Type: Seawater Tritium **EPA 906.0** -147 +/- 149 261 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

<u> </u>	REQUEST FOR SAM	APLE ANALYSIS (F	Radiochemical)	5	32
Sanitation and Radiation			Received	Lab No. (Leave Blank)	
850 Marina Bay Parkway,	G164	1 10	-17-12	12-0841	
510-620-2911 5	0-620-2930	Dafe &	Time Sampled	Seria Number	
LAttn:S	nyumale Rubera	10/19/12	<u> </u>	R 92286	
Collector Information		Reporting Info	ormation	!!	
Name: Wayne Dos		Name:	USH SK		
Address: 2000 12 ad	Applied tenouronized the Seen Hull Ave. Coutri Mesa, C	Address: 0	CODH-BHB		
92626	HIM ANG COMUMOZALC		60x 40-741	4 ms 7610	
Telephone No.: - 1/2	Pried Environmented Seen Hus Ave. Costa Meza, C	元 Telephone No.	- ali - ado -	-100	, jè
Sample Information System Name / Facility:		<u> </u>	•	• •	,
Sampling Point (s):	MIG	D DWFOB () ZO RHB O F	WQCB() DTSC	*
	3. OO (432	EMB	Other (Speci		
System No.:				'77	
TYPE OF SAMPLE (Check	•				
☐ Drinking Water ☐ Raw	Groundwater	Surface Wa		Wastewater	
	☐ Water Treatment Plant (V			Point of Use (POU)	
Treated (dide one). Ci	hlorinated / Chloraminated / Chlorina	e Dioxide / Ozonated	/ Peroxizone / Fluorio	lated / Coagulated / pH Adju 	usted
☐ Air Filters	Date/Time	Seawater		Sludge (Semi-solid Samp	les)
Finishing:		🛱 Milk	₹ . · ·	Soil/Sediment	,
Starting:		5 Wipes		Biota (Type):	
Net (M³)		Radon Cani		Other:	
☐ Air Charcoal Cartridge					
2011111112			<u>`</u>		
COMMENTS: (Cautions, e			V. j j	the state of the s	j. my in
☐ Field Treatment: Pres		/iced/Frozen:	Oth		
Field Measurement:	mR/hr	🦰 😘 Radionuclid	e(s), if known:	<u> </u>	
A Rush/Priority (should be	prearranged and have supervisory	approval)	<u></u> .		
ANALYSIS REQUESTED (For questions, please call 510-620-	2911)		/	
Gross Alpha	☐ Gross	Beta 🖁	☐ Gamma Sca	าก	
Total Uranium	☐ Total	Beta (∰SC)	NORM (Gar	nma)	
☐ Total Radium	X Tritiur	n (³H) }		ericium / Curium	
Radium-226	✓ 🖵 Carbo	n-14 🖔	☐ Isotopic Plut	onium	
Radium-228	☐ lodine	≻131 ÷	Isotopic The	rium	
Radon-222	☐ Stront	ium-89, 90	Isotopic Ura	nium	
Other (Specify);	Nicke	l-63	☐ Iron-55		
CHAIN OF CUSTODY			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	<u></u>
Date 0/15/12	Jayre 3		\sim	u Johnstia	_
1239	Name (Print)	My	16, 200	Date OCCO	-
Time Custody Received	rganization	Signature /	are ear 140	Time Custody Released	ā ¹ ,
Date 0/16/12	Name (Print)			10/1/0/10	
0820	MRC	(-1)	()·	Date	
Time Custody Received	Organization	Signature		Time Custody Released	ī
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	DINKLE	$-\mathcal{N}$	town M. Oh	Date	
Time Custody Received	Organization	Signature		Time Custody Released	1
ABORATORY REMARKS	(Leave Blank)	n. 119 lu 10			
 Condition at Time of Rec 	elpt:	The Martin Committee of the Committee of			
☐ Acceptable ☐ Holding Time Exceed	Broken Container Sample Not Cooled	Leaked in TrInsufficient S		Q Improper Container	en in
		A madicants			
Preservatives/Carriers: ☐ Added While Sampling	Added in Lehocatory	Not Bridge			



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0540

Collector:

System No:

James Nunez

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science 3000

CDPH - RHB, 1500 Capitol Av., MS 7610

Costa Mesa

CA

Sacramento

95814-5006

Phone Number: 714 850-4830

CA

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / October 2012

Billing Agency: RHB

Samples Received by Lab: 10/17/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0540-01 Sample ID: R 92289 Time Collected: 10/15/2012 11:00 Sampling Point: SONGS D Sample Type: Seawater K-40 EPA 901.1 359 +/- 21.7 84.1 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater. American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Leb 803 (11/07)

REQUEST FOR SAME	PLE ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	10-19-12 12-0540
Richmond, CA 94804 510-620-2911 510-620 - 2930	Date & Time Sampled Serial Number
	The state of the s
Attn: Shiyamalie Rubera	Reporting Information R 92289
Name: \case \case \case	Name: Characilla
Dept./Branch: Mac How I	Dept/Branch: CDP14 - KHB
Address: 3000 Red Hill Ace Coste Mesc (G	Address: PD BOX 99-7414 MS 7010
Name: James Numez Dept./Branch: MBC Applied Environmented Sciences Address: 3000 Red Hill Are (0ste mese, Ca Telephone No.: 714) 850-4830	4 SUCYCLORENTO / 6 USXIV
Telephone No.: 714) 850-4830 Sample Information	1 relephone No.: 91(a -440) - 7000
System Name / Facility:	Billing Agency
Sampling Point (s):	DWFOB() RHB DRWQCB() DTSC DWTPB DFDB DWR DCDFG
	DWIPB LIDWR CDFG
System No.:	- Chief Copedity)
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater	☐ Surface Water ☐ Water
☐ Raw ☐ Water Treatment Plant (WT	TP) Distribution System Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine (Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	
Finishing:	
	☐ Milk ☐ Soil/Sediment
Starting.	☐ Wipes ☐ Biota (Type):
Net (M³)	Radon Canister
Air Charcoal Cartridge	
COMMENTS: (Cautions etc.):	
COMMENTS: (Cautions, etc.): ☐ Field Treatment: Preservatives added:	ced/Frozen: Other:
Field Measurement:mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory ap	
ANALYSIS REQUESTED (For questions, please call 510-620-29)11) ₃
🗓 Gross Alpha 🚅 🚨 Gross B	Beta Gamma Scan
☐ Total Uranium ☐ Total Be	eta (LSC) NORM (Gamma)
Total Radium 📮 Tritium (
☐ Radium-226	- Total Programme Contour
Radium-228	= isotopio i istoriiditi
Radon-222 Strontiur	
Other (Specify);	
HAIN OF CUSTODY	3 - 🗀 tron-55 😓
· jalis/12 James Nunezal	
Date Name (Print)	Date // 10/12
Time Custody Received Organization	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Time Custody Received Organization	Signature/ Time Custody Released
Date Name (Print)	Date 1/16/12
-0820 MPC	1700
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	
<u> 10-30</u>	Dulow, W. Celi Date
Time Custody Received Organization	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank)	3,0/00
Condition at Time of Receipt:	
Acceptable Q Broken Container G Holding Time Exceeded Q Sample Not Cooled	Q Leaked in Transit
그리는 사람이 있다면 하는 사람들은 얼마를 보는 것이 되었다. 그 사람들은 사람들이 되었다면 하는 것이 없는데 되었다.	Insufficient Sample
Preservatives/Carriers: Added While Sampling: Di Added in Laboratory	
☐ Added While Sampling ☐ Added in Laboratory	O Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0539

Collector:

James Nunez

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science 3000 Costa Mesa

CDPH - RHB, 1500 Capitol Av., MS 7610

Sacramento

CA 95814-5006

Phone Number: 916-440-7955

Phone Number: 714 850-4830

Site/Project Name: San Onofre NPP / October 2012

Samples Received by Lab: 10/17/2012

System No:

Billing Agency: RHB

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0539-01	Sample ID: R 92290 Sample Type: Seawater	Time Collected: 10/15/2012 11:00	O Sampling Point	: SONGS D
Tritium	EPA 906.0	-287 +/- 146	261	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPL	E ANALYSIS (Radiochemical)	and the second second second
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	10-17-12	12-05/39
Richmond, CA 94804 510 - 620 - 2930	Date & Time Sampled	
1 * * * * * * * * * * * * * * * * * * *	1 7	Serial Number
Attn: Shyamalie Rubera Collector Information	10/15/12 1100	R 92290
	Reporting Information	
Name: James Nunez	Name: Steve HSU	1
Dept./Branch: MC Applied Gov. ronucht Science) Address: 3000 Part H 1 4 (2007)	Dept/Branch: COPH - RHB	i
Less with the COZAN AND ICITED	17	19 ms 7610
Telephone No.: 714) SCO -4830	Telephone No.: 916 - 410 -	5,95899
Sample Information	Billing Agency	/r/(10
System Name / Facility:	D DWFOB() X RHB	RWQCB() DIDTSC
Sampling Point (s):	DWTPB DFDB	DWR Q CDFG
Suntam Na .		ify)
System No.:		
TYPE OF SAMPLE (Check all applicable boxes)		·
Drinking Water Groundwater	☐ Surface Water [3 Wastewater
Raw Water Treatment Plant (WTP)	Distribution System	Depoint of Usia (POLI)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dic	xide / Ozonated / Peroxizone / Fluorio	dated / Coagulated / pH Adjusted
	4	<u> </u>
and the second s		☐ Sludge (Semi-solid Samples)
Finishing:	Milk C	3 Soil/Sediment
Starting:	🗓 Wipes	Biota (Type):
Net (M ³)		
☐ Air Charcoal Cartridge	Tradori Carliste	Other:
		<u> </u>
COMMENTS: (Cautions, etc.):		
the second from the second of the control of the second of	Med/Frozent Oth	er:
	42	
	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory appr	: 3	
ANALYSIS REQUESTED (For questions, please call 510-620-2911) .	
☐ Gross Alpha ☐ Gross Bet		
☐ Total Uranium ☐ Total Beta		
- · · · · · · · · · · · · · · · · · · ·		ericium / Curium
☐ Radium-226 ☐ Carbon-14	🕒 Isotopic Plu	tonium
☐ Radium-228 ☐ lodine-131	☐ Isotopic The	orium
☐ Radon-222 ☐ Strontium-	89, 90 🔲 Isotopic Ura	nium
Other (Specify); Nickel-63	□ Iron-55	
CHAIN OF CUSTODY		
Date Name (Print)		Date
1100 MR Applied Engravered Some	C-12-5	OSO A
Ime Custody Received Organization	Signature	Time Custody Released
Date Name (Print)		<u> 10/110/17</u>
0820 misc	(a, b, b)	Date
Time Custody Received Organization	Signatule Little	Time Custody Released
Date 10-17-12 Name (Print)		Time Outlody Released
Date Name (Print)	19 1 mm	Date
Time Custody Received Organization	- (Julbria W. S.	W
	Signature	Time Custody Released
ABORATORY REMARKS (Leave Blank)	14/110	
Condition at Time of Receipt:	UT/MA	
☐ Acceptable ☐ Broken Centainer.☐ Holding Time Exceeded ☐ Sample Not Gosted	Q Leaked in Transit	☐ Improper Container
그리아 아는 사람들은 사람들이 하는 사람들이 되었다. 그리는 사람들은 사람들은 함께 불편하는 경험을 받는 것이다.	Insufficient Sample	
Preservatives/Carriers:	용량 가장이 얼굴한 그렇게 없다.	
Q Added While Sampling Q Added in Laboratory	☐ Not Added	☐ Not Applicable
ab 803 (11/07)	—————————————————————————————————————	



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0463

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

95814-5006

Phone Number: 714-850-4830

Sacramento

CA

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / September 2012

CA

System No:

Billing Agency: RHB

Samples Received by Lab: 9/20/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0463-01 Sample 1D: R 92258 Time Collected: 9/17/2012 12:23 Sampling Point: SONGS A Sample Type: Seawater K-40 EPA 901.1 399 +/- 19.2 64.0 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate,

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)				
Sanitation and Radiation	n Laboratories Branch	Date	Received	Láb No. (Leave Blank)
850 Marina Bay Parkway,	G164	9-1	20-12	12-0463
	510-620-2930	Date & T	ime Sampled	Serial Number
AHn.	sniyamalle Rubera	· 9/17-122	5 1223	R 92258
Collector Information · Name: JeトハハレンSiii	tho	Reporting Info		
Dept./Branch: MBC A	polled Environmental Sou	Name: Stou	€ H30 SABU BUS	,
Address: 3000 Red	Pptied Environmental South Hill Are. Costa Mesa,	Address:	JUPH - KAU BX 99-74	la 1115 7610
72626 Telephone No.: 714	-8ch - 1820	1 7 10.7	# (1 (75 XG/) 1
Sample Information	<u>-220 - 4030 - 2</u>	Billing Agency	916-440-	- 7940
System Name / Facility:	SONGS	DWFOB()	•	RWQCB() DTSC
Sampling Point (s):		DWTPB		OWR CDFG
System No.:	<u> </u>	EMB	U Other (Spec	ify)
TYPE OF SAMPLE (Check	k all applicable boxes)			
☐ Drinking Water ☐ Raw	Groundwater	Surface Water		2 Wastewater
	Water Treatment Plant (WTF	Distribution S	System [Point of Use (POU)
	hlorinated / Chloraminated / Chlorine D	Oxide / Ozonated /	Peroxizone / Fluorio	dated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:		Milk		3 Soil/Sediment
Starting:	<u>~</u>	Wipes 1		Biota (Type):
Net (M³)		Radon Canis	ter 🗀	Other:
☐ Air Charcoal Cartridge		145		·
COMMENTS: (Cautions, e	tc.):		· · · · · · ·	
Field Treatment: Pres		osd/Frozen:	Oth	er:
☐ Field Measurement:	mR/hr	Radionuclide	(s), if known:	d
☐ Rush/Priority (should be	prearranged and have supervisory app	proval)	(-), <u></u>	
ANALYSIS REQUESTED (For questions, please call 510-620-291	1)	· , 	
☐ Gross Alpha	☐ Gross Be	· 3	Gamma Sc	
☐ Total Uranium	→ ☐ Total Bet		□ NORM (Gai	
☐ Total Radium	Tritium (³			ericium / Curium
Radium-226	☐ Carbon-1	A.	☐ Isotopic Plu	
☐ Radium-228	O lodine-13	. '.	☐ Isotopic The	
Radon-222	Strontium		☐ isotopic Ura	
Other (Specify);		,	☐ Iron-55	
CHAIN OF CUSTODY	James C. Line	. As		
Date 12	Name (Print)			<u>alistiz</u>
1223	MBC	- De 111	$\mathcal{A}(\mathcal{A})$	Date 1700
Time Custody Received	Organization	Signature		Time Custody Released
Date	Name (Print)	J. I	U	Date
Time Custody Received	Organization	Ole Assert		·
4-20-12	UA	Signature		Time Custody Released
Date	Name (Print)	· ·	•	Date
Time Custody Received	Organization	Signature		Time Custody Polessed
				Time Custody Released
ABORATORY REMARKS Condition at Time of Rec	eipt: 40.01	MR/HR		
Acceptable Holding Time Exceed	☐ Broken Container	O Leaked in Tra		☐ Improper Container
이 것 같으라게 살아보다	ed Sample Not Cooled	D Insufficient Sa	imple	
Preservatives/Carriers: Added While Samplin	g G Added in Laboratory	Not Added		
		- IAM WOMEN	计自动性 特别克尔特 人名英格兰	☐ Not Applicable

Lab 803 (11/07)



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0464

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 CA 92626

Sacramento

CDPH - RHB, 1500 Capitol Av., MS 7610 CA 95814-5006

Costa Mesa Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / September 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 9/20/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0464-01 Sample ID: R 92263 Time Collected: 9/17/2012 12:23 Sampling Point: SONGS A Sample Type: Seawater Tritium EPA 906.0 -151 +/- 149 261 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SA	AMPLEIANALYS	IS (Radiochemical)	
Sanitation and Radiatio	n Laboratories Branch		Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway Richmond, CA 94804	, G104		14/20/12	12-0464
510-620-2911	10 - 620 - 2930	Ĵ Da	te & Time Sampled	Serial Number
AHN.	Shiyamalla Rulxera		12 1223	<u> </u>
Collector Information Name: JCHINGS	math	eporting	Information	
Dept./Branch: N 12/	landed Engeniesed &	Mame:	HOVE HOU	· ·
Address: 3000 1200	Applied Environmental &	Address:	6) 1878 CG *	14.14 MS 7610
Telephone No * *********************************	-850-4830	W. Santagara	Sarramento No: Gue das	74 14 M3 10/10 ≫6
Sample Information	<u>- 850 - 4830</u>	Billing Ag		- 7940
System Name / Facility:	SONGS	D DWFO		PIMOCE () D DTDO
Sampling Point (s):	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	. DWTPI	3 🗀 FDB 🗔	DWR CI CDFG
System No.:	A	EMB	D Other (Spe	ecify)
TYPE OF SAMPLE (Chec	k all applicable boxes)		<u> </u>	
☐ Drinking Water	,	© Surface	Water	D Mindowski
□ Raw	Groundwater Water Treatment Plant	(WTP) Distribu	tion System	☐ Wastewater ☐ Point of Use (POU)
☐ Treated (circle one): C	hlorinated / Chloraminated / Chlori	ne Dioxide / Ozona	ited / Peroxizone / Fluo	ridated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawate		
Finishing:		Milk	,-	□ Sludge (Semi-solid Samples)□ Soil/Sediment
Starting:		Wipes		
Net (M³)		Radon (D Biota (Type):
Air Charcoal Cartridge			Jan 113ter	① Other:
COMMENTS: (Carriers	4- 2:			
COMMENTS: (Cautions, e □ Field Treatment: Pre				francisco de la constitución de
Tield Measurement:		eed/Frozer	: O	ther:
· · · · · · · · · · · · · · · · · · ·	mR/hr	Radionu	clide(s), if known:	
	prearranged and have supervisor	y approgal)	··	
	For questions, please call 510-620)-2911) }		
Gross Alpha		ss Beta 🖁	Gamma S	can
☑ Total Uranium ☑ Total Radium		i Beta (ESC)	☐ NORM (Ga	amma)
3 Radium-226	X Tritiu		☐ Isotopic Ar	nericium / Curium
Radium-228	Carb		Isotopic PI	
Radon-222		e-131**	☐ Isotopic Th	
Other (Specify);		ntium-89, 90	lsotopic Ur	anium
HAIN OF CUSTODY	Nicke	el-63	☐ Iron-55	
· <u>9/17/12</u>	Jenny Smith			6 6 6 1
Date 122.2	Name (Print)			<u>C1 18 12</u> Date
Time Custody Recoved	Organization Organization	- 12	inder.	
	The state of the s	A Shakire		Time Custody Released
Date	Name (Print)			Date
Time Custody Received	Organization	Signature	162	
Date (-20-12	To COLOR			Time Custody Released
10:00	Name (Print)		79-1	Date Date
Time Custody Received	Organization Organization	Signature C	Julione Ma	Time Custody Released
ABORATORY REMARKS	(Leave Blank)		110	I WING CONSTOUR MEISSEG
Condition at Time of Reci	Hpt:	0.01 MK/H	1 <i>K</i>	
Acceptable Holding Time Exceeds	☐ Broken Container ☐ Sample Not Cooled	D Leaked i		☐ Improper Container
Preservatives/Carriers:		insunicie	nt Sample	
Added While Sampling	Added in Laboratory	☐ Not Adds	m di salah d Maria di salah di sa	



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0465

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CA 92626

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

Phone Number: 714-850-4830

Sacramento

95814-5006

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / September 2012

Billing Agency: RHB

Samples Received by Lab: 9/20/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0465-01	Sample ID: R 92264 Sample Type: Seawater	Time Collected: 9/17/2012	12:39 Sampling	Point: SONGS B
K-40	EPA 901.1	346 +/- 20.8	 77.7	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

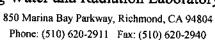
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank).
850 Marina Bay Parkway, G164	9/20/12 12-0465
Richmond, CA 94804 510 - 620 - 2930	Date & Time Sampled Serial Number
Affri Shiyamalle Kobera	9/17/12 1239 R 92264
Collector information	Reporting Information
Name: Jenny Smith	Name: Streve Hou Dept/Branch: CDPH - RHB
Dept./Branch: MBC Applied Environmental Strong Address: 3000 Part Hill And Continuental	Address: PO BOX 991-7414 pms 7610
92626	Sacrapiento, Ca. 95899
Address: 300 Red Hill Ave Costa Mesarca Telephone No.: 78-850-4830	Telephone No.: Gig = 440 = 7945
Sample Information System Name / Facility:	Tournia vacuot
Sampling Point (s):	DDWFOB() ZX RHB DRWQCB() DDTSC DDWTPB DFDB DWR DCDFG
1 R	D EMB O Other (Specify)
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater	Surface Water
☐ Raw ☐ Water Treatment Plant (WTP)	
G reated (drde one): Unionnated / Chioraminated / Chionne Dio	tide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater
Finishing:	☐ Milk ☐ Soil/Sediment
Starting:	Wipes 🔲 Biota (Type):
Net (M³)	Radon Canistér 🔘 Other:
☐ Air Charcoal Cartridge	- Office:
COMMENTS: (Cautions, etc.):	Control of the second of the s
☐ Field Treatment: Preservatives added:	ced/Frozen: Other:
	Radionuclide(s), if known:
Rush/Priority (should be preamanged and have supervisory appreamants)	a)
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
☐ Gross Alpha ☐ Gross Beta	Gamma Scan
☐ Total Uranium ☐ Total Beta	
☐ Total Radium ☐ Tritium.(3H	
☐ Radium-226 ☐ Carbon-14	
☐ Radium-228 ☐ lodine-131	
☐ Radon-222 ☐ Strontium-8	in the second se
Other (Specify); D Nickel-63	☐ Iron-55
	4.
1. alialia Popusmith	\sim alight
Date Name (Print)	Date
Time Custody Receives Organization	Single Single States of
	Signature Custody Released
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
3. <u>Q 70.12</u> 11A	Timo Odolody Noidased
Date Name (Print)	Date Date
Time Custody Received Organization	Signature Time Custody Released
ADADATANA PERLAMANA	
ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt:	NK/HR
O Acceptable O Broken Container	☐ Leaked in Transit ☐ Improper Container
U Holding Time Exceeded U Sample Not Cooled	Insufficient Sample
3. Preservatives/Carriers:	



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0466

Collector:

System No:

Jenny Smith

RHB

CA

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

Phone Number: 714-850-4830

Sacramento

95814-5006

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / September 2012

Billing Agency: RHB

Samples Received by Lab: 9/20/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0466-01 Sample ID: R 92265 Time Collected: 9/17/2012 12:39 Sampling Point: SONGS B Sample Type: Seawater Tritium EPA 906.0 -95.5 +/- 150 261 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

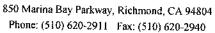
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980,

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	120-12 12-0466
Richmond, CA 94804 510-620-2911 510-620-2911	Date & Time Sampled Serial Number
Alth Shiyamalle Rubera	19/17/12 1239 R 92265
Collector information _	Reporting Information
Name: Jentry Smith	Name: Street HSU
Dept. Branch: MBC Applied Environmental Briene	Dept./Branch: CDPH RH3
G26210 Her HILL ALE COSTINUISTICA	79 - 7414 1115 7610
Dept./Branch: MBC Applied Environmental Briene Address: 300 Red Hill Ale Costa Nicola Telephone No.: 114 850 -4830	elephone No.: Q16-44 K41
	[g., gone)
System Name / Facility: SONGS	D DWFOB() X RHB D RWQCB() D DTSC D DWTPB D DWR D CDFG
12	DOWTPB DOWR DOFG DOMB DOTHER (Specify)
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater	Surface Water
Raw Water Treatment Plant (WTP)	
Treated (Circle Orie). Childrinated / Childraminated / Childrine Diox	de / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	Milk - Soil/Sediment
Starting:	Wipes 🚨 Biota (Type):
Net (M³)	Radon Canister
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	
	ced/Frozen: Other:
1 12	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory appro	yaı)
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
☐ Gross Alpha ☐ Gross Beta	☐ Gamma Scan
☐ Total Uranium ☐ Total Beta	LSC)
☐ Total Radium ☐ Tritium (³H)	□ Isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14	54. V
Radium-228	in .
☐ Radon-222 ☐ Strontium-8	9, 90 🚨 Isotopic Uranium
Other (Specify); Nickel-63	☐ Iron-55
CHAIN OF CUSTODY	
1. 0/17/12 Jonny Smith	9/18/17 Date
$\frac{1729}{}$ M2C	Later Man 1991
Time Customy Received Organization	Time Custody Released
2. Date Name (Print)	Date
	·
Time Custody Received Organization 3. 0-80-12 / 110	Signature Time Custody Released
Date Name (Print)	Date
LD:00 DURLB	- (1) The MAI
Time Custody Received Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank) & 0.01 UF/	
그 이 사용하다 경험되었습니다. 이 아이지 그는 그 이 아이지 않는 그 사용을 하고 있다. 그 그 사용을 하는 것이다.	
성이는 소프로 한 사람들이 무슨 것이 가득하는 것이 모든 것이 되는 것이 되었다. 그는 그들은 이 그리고 하지만 하고 있다고 한 그리고 하고 있다.	Leaked in Transit Improper Container Insufficient Sample
B. Preservatives/Certiers	
이 이 유민 생활을 무슨 유럽 살아들은 아이들이 아이들이 있다는 것이 있다면 그 것이 없어요?	Not Added



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0467

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CA 92626 Sacramento

CDPH - RHB, 1500 Capitol Av., MS 7610 95814-5006

CA

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / September 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 9/20/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0467-01 Sample 1D: R 92266 Time Collected: 9/17/2012 12:32 Sampling Point: SONGS C Sample Type: Seawater K-40 EPA 901.1 368 +/- 23.4 86.2 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. 1.1.D95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Lab 803 (11/07)

<u> </u>	REQUEST FOR SAMP	LEANALYSIS (Rad	iochemical)	A Commence of the Commence of
Sanitation and Radiation	on Laboratories Branch	Date Re		Lab No. (Leave Blank)
850 Marina Bay Parkway Richmond, CA 94804	/, G164	W-On	-12	12-0467
510-620-2911	510-620-2930	Date & Time	Sampled	Serial Number
Attn: S	Shiganxillo Rubera	9/12/12	1232	R 92266
Joilector Information		Reporting Inform		L A SZZOD
Vame: Jennys	mith)	Name:	Exercise.	•
Address: 2000 M	Policy Elivernimontal Soco			.
92626	COSTS IMESELS	Timoress.)X 99-71	14 1005 Thota
	- 850 - 4830 *	I neebtlone No.: /	7.6 - 440	7000
Sample Information System Name / Facility:	6-1-6-	Appling Agency		7 () 0 .
Sampling Point (s):	SONG 5	D DWFOB()	RHB D F	
Nustaur 61-	C	EMB	☐ FDB ☐ ☐ [☐ Other (Spec	OWR CDFG
System No.:			- Carci (opec	my/
YPE OF SAMPLE (Chec				
Drinking Water Raw	Groundwater Water Treatment Blant (A)	Surface Water		Wastewater
	☐ Water Treatment Plant (WT Chlorinated / Chlorine D	r) (性 Distribution Syst	lem ľ	Deint of the ADOLD
		// Ozonated / Pe	roxizone / Fluorio	lated / Coagulated / pH Adjusted
Air Filters	Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:		🎒 Milk		Soil/Sediment
Starting:		O Wipes		Biota (Type):
Net (M³)		Radon Canister		Other:
Air Charcoal Cartridge		**************************************		
OMMENTS: (Cautions,	etr.)		· · · · · · · · · · · · · · · · · · ·	
Field Treatment: Pre		ced/Frozen:		The state of the s
Field Measurement:		- 1 (本) (1) (1) (1) (1) (1) (1) (1	Oth	er:
_	mR/hr e preamanged and have supervisory ap	, r∢adionuciide(s),	if known:	
		<u> 35 - 5.</u>		
	(For questions, please call 510-620-291	× 140		
Gross Alpha	☐ Gross Be	700	Gamma Sca	nn ·
Total Uranium Total Radium	☐ Total Bet		(Gan	nma)
Radium-226	☐ Tritium (³	186	Isotopic Ame	ericium / Curium
Radium-228	☐ Carbon-1		Isotopic Plut	
Radon-222	☐ lodine-13		Isotopic Tho	
Other (Specify);	☐ Strontium	777	Isotopic Ura	nium
AIN OF CUSTODY	Nickel-63		☐ Iron-55	
9/12/12	BINDLY CANTA	**		- t - t
Date	Name (Print)			G(18/12
Time Custody Received	Organization	Service	مرابيد	
	Collins (1997) (1997) (1997) (1997)	Signature) ,	Tinge Custody Released
Date	Name (Print)	**************************************	* * * * * * * * * * * * * * * * * * *	Date
Time Custody Received	Organization	Cignoture		<u> </u>
<u> </u>	+1 A	Signature		Time Custody Released
Date (O: M)	Name (Print)	· · · · · · · · · · · · · · · · · · ·		Date
Time Custody Received	Organization DURCE	Signature Luci	mo III BU	<u> </u>
				Time Custody Released
ORATORY REMARKS Condition at Time of Rec	(Leave Blank) < 0.01 UR/	48		
Acceptable	☐ Broken Container	D Leaked in Transit		U Improper Container
☐ Holding Time Exceed	ed Cl Sample Not Cooled	Insufficient Sample		Improper Container
Preservatives/Carriers:	이 등 등 되었다. 하나 하나 함께 함께 되었다.			
Added While Samplin	Added in Laboratory	☐ Not Artried		



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0468

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CA

CDPH - RHB, 1500 Capitol Av., MS 7610

Phone Number: 714-850-4830

Sacramento

95814-5006

Site/Project Name: San Onofre NPP / September 2012

CA

Phone Number: 916-440-7955

System No:

Billing Agency: RHB

Samples Received by Lab: 9/20/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0468-01 R 92268 Sample ID: Time Collected: 9/17/2012 12:32 Sampling Point: SONGS C Sample Type: Seawater Tritium EPA 906.0 -178 +/- 148 261 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUES1	FOR SAMPLE	ANALYSIS (Radi	ochemical)	
Sanitation and Radiation Laboratories Branch		Date Rec		Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 ***		# 0-01	10	12-0464
Richmond, CA 94804 510-620-2911 510-(20 - 293))	Date & Time	Sampled	Serial Number
Attr. Shiyamalie Rui	nera (9/17/12		
Collector Information	25.4 0	Reporting Informa		R 92268
Name: Jenny Smith		Name: 🌪 👝 🕝	1 71 .	<u>.</u>
Dept./Branch: MBC Applied Enveronmen	ntal Sceence	(Dept./Branch: 🦰 🦳	つけょりょう	
Dept./Branch: MBC Applied Environment Address: 3000 Red Hill Ave. Costant	Mesa, (ربر 📑	Magress: (C) (PD)	C (14-7414	4 MIS 7610
Telephone No.: -14 - 850 - 4830				
Sample information		Telephone No.: C Billing Agency	116 - AAO	- 1940
System Name / Facility: SONG 3		DWFOB()	TRHB DR	WQCB() DTSC
Sampling Point (s).		DWTPB / /	U FDB D	WR □ CDFG I
System No.:	·	EMB	Other (Specif	5y)
TYPE OF SAMPLE (Check all applicable boxes)				
☐ Drinking Water ☐ Groundwater	:	S Services 14/242	· •	
☐ Raw ☐ Water Treatme	ent Plant (WTP) {	Surface Water Distribution Syst	am 🗆	Wastewater Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminate	ed / Chlorine Dioxi	de / Ozonated / Per	oxizone / Fluorid:	Sted / Coaculated / pU Adjusted
C'h Al more			<u></u>	
DOWN	me y	Seawater		Sludge (Semi-solid Samples)
Finishing:		Milk		Soil/Sediment
Starting:		Wipes		Biota (Type):
Net (M³)		Radon Canister		Other:
Air Charcoal Cartridge	, · · · · ·	1. 		
COMMENTS: (Cautions, etc.):	, ·		-	
☐ Field Treatment: Preservatives added:	- , , , , , , , , , , , , , , , , , , ,			San
	111	ed/Frozen:	Othe	or:
☐ Field Measurement:	mR/hr	Radionuclide(s),	if known:	
Rush/Priority (should be prearranged and have s	upervisory appro	al)		et en
ANALYSIS REQUESTED (For questions, please ca	II 510-620-2911)	1.	· · · · · · · · · · · · · · · · · · ·	
☐ Gross Alpha	☐ Gross Beta	y -	☐ Gamma Scar	_
☐ Total Uranium	☐ Total Beta	SC)	□ NORM (Gam	
J Total Radium	Tritium (3H)		☐ Isotopic Ame	
☐ Radium-226	Carbon-14		☐ Isotopic Ame	
Radium-228	☐ lodine-131		Isotopic That Isotopic Thor	
Radon-222	☐ Strontium-89	. 90	 Isotopic Uran 	
Other (Specify);	☐ Nickel-63		☐ Iron-55	HUIT
CHAIN OF CUSTODY		· · · · · · · · · · · · · · · · · · ·	G 1/01/-00	
· 9/17/12 Jenny Smit	-h	* •	_	alialia
Date Name (Print)		\triangle . (Date
Time Custody Received Organization		ignature (<u> </u>	1700
		ngilathie		Time Custody Released
Date Name (Print)	· ,			Date
Time Custody Received Organization		ignature		
= 9-20-12		A. iarni c		Time Custody Released
Date Name (Print)		40 1		Date
Time Custody Received Organization	l //> 	ignature Control	roll ale	
		- Sharing	,	Time Custody Released
ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt:	- 0.01 MR	IHR		
☐ Acceptable ☐ Broken Com	tainer	Leaked in Transit		
U Holding Time Exceeded O Sample Not				☐ Improper Container
Preservatives/Carriers;				
☐ Added While Sampling ☐ Added in La	boratory	Not Added		



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0469

Collector:

James Nunez

DWR

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science 3000

CDPH - RHB, 1500 Capitol Av., MS 7610

Costa Mesa

CA

Sacramento

CA 95814-5006

Phone Number: 714 850-4830

Site/Project Name: San Onofre NPP / September 2012

Phone Number: 916-440-7955

System No:

Billing Agency: RHB

Samples Received by Lab: 9/20/2012

Parameter

Method

Result +/- CE

MDA 95

Units

Lab No: 12-0469-01

R 92271

Sample ID:

Time Collected: 9/17/2012 11:20

Sampling Point: SONGS D

K-40

EPA 901.1

Sample Type: Seawater

386 +/- 21.0

77.7

pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

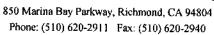
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR S	AMPLE ANALY:	SIS (Radiochemical)	
Sanitation and Radiation	m Laboratories Branch		Date Received	Lab No. (Leave	Blank)
850 Marina Bay Parkway	r, G164		9-20-12	12.00	
510-620-2911	10-620-2930	וי די	ate & Time Sampled		<u> </u>
Alto	Bhiyamalie Ruberc		•	` Serial Num	
Collector Information	Sinda PÓSSIS	Penortin	1 1 1 2 0 1 1 1 1 1 1 1 1 1	<u>R 922</u>	
Name: James Nu	ñcz	Name	ട്⊥െ⇔െ ന്⇔ം	•	
I Dept./Branch: Name > A			THERE / CACALA .~.	(1.5	
Address: 3000 200	1 full No. Costa Meson	Address:	Po Box aga	HR	
Telephone No.	ppled Environmental Sc. 1 Hill No. Costa Mesa, 1-850-4830	Tologbas	Sacraments.	HB 7414 MS 7610 Ca 95899)
Sample information		Billing A	e No.:	130 (1)	
System Name / Facility:	SONGS	D DWF		F) BUOGS () S =	
Sampling Point (s):		DWTF	PB D FDB	D RWQCB()	DTSC DFG
System No.:		□ EMB	Other (DEG
			<u> </u>		
TYPE OF SAMPLE (Chec				**	:
☐ Drinking Water ☐ Raw	Groundwater Water Treatment Blant	OACTON D Surface	e Water	Wastewater	
	Water Treatment Plant	(VVIP) 🚮 Distrib	ution System	☐ Point of Use (POL	J)
	Chlorinated / Chloraminated / Chlor	ilie Diogge / Uzon	lated / Peroxizone / Fi	luoridated / Coagulated /	pH Adjusted
☐ Air Filters	Date/Time	Seawa	ter	☐ Sludge (Semi-solid	d Samples)
Finishing:	· · · · · · · · · · · · · · · · · · ·	Milk		□ Soil/Sediment	o Campies)
Starting:	<u> </u>	Wipes			
Net (M³)		42	Canister	☐ Biota (Type):	. "
☐ Air Charcoal Cartridge	<u></u>	Tradon	Camatei	Other:	· · · · · · · · · · · · · · · · · · ·
COMMENTS: (Cautions, o	etc.);		<u>. </u>		V
☐ Field Treatment: Pre	servatives added:	ced/Froze	n: 🔼	Other:	The second of th
Field Measurement:	mR/hr	Radion	uclide(s), if known: _	·	•
☐ Rush/Priority (should be	e prearranged and have supervisor	y approval)	_		·
ANALYSIS REQUESTED	(For questions, please call 510-620	L2011)		· · · · · · · · · · · · · · · · · · ·	
Gross Alpha		ss Betai	· · · · · · · · · · · · · · · · · · ·	•	
☐ Total Uranium		₹.	Gamma		•
Total Radium		ll Beta (LSC)		(Gamma)	٠.
Radium-226	☐ Cart	um (³H)		: Americium / Curium	
3 Radium-228	•	X	☐ Isotopic		
Radon-222	☐ lodir ☐ Stro	.4	☐ Isotopic		
Other (Specify);		ntium-89, 90		Uranium	•
CHAIN OF CUSTODY	Nick	ei-03	☐ Iron-55		-
alinli2	James Nines		· · · · · · · · · · · · · · · · · · ·		····
Date	Name (Print)	- * /	γ)
Time Custody Received	Mex Applied Environment	15cours (1	—— 1500	
·Qlialia	Organization Co. 100	Signature		Time Custody R	eleased
Date	Name (Print) Smith	- 5 ~ C		<u>aliglio</u>	
Time Custody Received	11712	_/ La 10	· · · · · · · · · · · · · · · · · · ·	Date 1700	
Time Custody Received	Organization	Signature		Time Custody R	eleased
Date	Name (Print)	_ _	o ' <i>J</i>		
Time Custody Received	DWDIB		telong 10	Date	
	Organization OV R L D	Signature	Comment of the Commen	Time Custody R	eleased
ABORATORY REMARKS	(Leave Blank) ≤ 0.01	ub lin			1.46 / 1.4
Condition at Time of Rec Acceptable		412/42			
☐ Holding Time Exceeds	D Broken Container Sample Not Cooled	☐ Leaked	in Transit ent Sample	☐ √Improper Contain	ner
Preservatives/Carriers:			eur omubie	-2L	
	9 D Added in Laboratory		e Martine da¥in titali	4/	1 N. A.



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0470

Collector:

James Nunez

DWR

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science 3000

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

Costa Mesa

CA

Sacramento

95814-5006

Phone Number: 714 850-4830

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / September 2012

Billing Agency: RHB

Samples Received by Lab: 9/20/2012

Parameter

Method

Result +/- CE

MDA 95

Units

Lab No: 12-0470-01

Sample Type: Seawater

Sample 1D:

R 92274

Time Collected: 9/17/2012

Sampling Point: SONGS D

Tritium

EPA 906.0

-216 +/- 147

261

pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	4-20-12	10-1471
Richmond, CA 94804 510-620-2911 510-620 -2130	Date & Time Sampled	Serial Númber
Attn: Shiyamalie Rubera	9/17/12 1120	R 92274
Collector Information	Reporting Information	
Name: James Nuiz	Name: Steve HSU	·
Dept./Branch: MBC Applied Enwironmental Science	(Dept/Dialicit, China) - 12 1 1 22	10 ME 71010
Address: 300 Red Hill Ave. Custa Mosa, Ca.	Address: PO BOX (19-74)	6 95899
Telephone No.: - 1/4 = XSO = 4X XO	$\frac{1}{4}$ relephone (40 $\frac{1}{1}(\frac{1}{2}-\frac{1}{2})(\frac{1}{2}) =$	7000
Sample Information	Billing Agency	THOOP () THE PERC
System Name / Facility: SONGS		RWQCB() DTSC DWR DCDFG
\mathcal{D}	☐ EMB ☐ Other (Spec	
System No.:	<u> </u>	
TYPE OF SAMPLE (Check all applicable boxes)		
	☐ Surface Water ☐ Distribution System ☐	Wastewater Rout of Use (POU)
□ Raw □ Water Treatment Plant (WTP) □ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox		
	<u>-</u>	· · · · · · · · · · · · · · · · · · ·
☐ Air Filters Date/Time		Sludge (Semi-solid Samples)
Finishing:	D Milk C	☐ Soil/Sediment : _ * *
Starting:	Wipes D	D Biota (Type):
Net (M³)	Radon Canister C	☐ Other:
☐ Air Charcoal Cartridge		
ACCEPTATE (Acceptance of the Control		**
COMMENTS: (Cautions, etc.):		
☐ Field Treatment: Preservatives added:		
	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory appro	<u> </u>	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	Ĩ,	
☐ Gross Alpha ☐ Gross Beta	7	
☐ Total Uranium ☐ Total Beta	• •	•
☐ Total Radium Tritium (³H)	•	nericium / Curium
☐ Radium-226 ☐ Carbon-14	· ·	
□ Radium-228 □ lodine-131	•	•
Radon-222 Strontium-8	•	anium
Other (Specify); Nickel-63	☐ Iron-55	
CHAIN OF CUSTODY		1° .
Date Name (Print)		Date 11/1/2
Time Custody Received Organization		1500
	Signature	Time Custody Released
Date Name (Print)	- 4	Date
1500 mec	- therewas	- 1700
Time Custody Received Organization 3. 0-20 P	Signature	Time Custody Released
Date Name (Print)	20	Date /
Time Custody Received Organization	Signature Tactor to M.C.	Time Custody Released
Time costody Received Organization	Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank)	UR/HR	
A. Condition at Time of Receipt: U.U/	Leaked in Transit	☐ Improper Container
Holding Time Exceeded	CI Insufficient Sample	
B. Preservatives/Cerriers:		
Added While Sampling	☐ Not Added	O Not Applicable



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0361

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

Sacramento

CA

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / August 2012

CA

System No:

Billing Agency: RHB

Samples Received by Lab: 8/17/2012

Parameter	rameter Method Result +/- (MDA 95	Units
Lab No: 12-0361-01	Sample ID: R 92150 Sample Type: Seawater	Time Collected: 8/15/2012	12:20 Sampling Poin	t: SONGS A
K-40	EPA 901.1	356 +/- 17,7	59.7	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

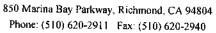
⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Lab 803 (11/07)

REQUEST FOR SAM	PLEANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Dâte Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804	1 8-17-12	12-0361
Richmond, CA 94804 510 - 620 - 2930	Date & Time Sampled	Serial Number
Attn: Shiya malie Rubera	8/15/12 1220	R 92150
Collector Information	Reporting Information	T JEIJO
Name: Jenny Smith	Name: Steve Hay	
Address: 3000 Red Him Avc. Costa Mesay	Copept./Branch: CDPH-RH	B
92626 HU AVE. COSTA MESCA	Calledon Box 99-	1414 ms_7610
Telephone No: 714 8550 - 4830	Sacrament	2, (3, , 95891
Sample Information	Billing Agency	
System Name / Facility: SONGS	D DWFOB() DXRHB □	RWQCB() DTSC
\ \	DWTPB (☐ FDB (☐	DWR CDFG
System No.:	☐ EMB ☐ Other (Sp	ecify)
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater	Surface Water	☐ Wastewater
☐ Raw ☐ Water Treatment Plant (W	(P) □ Distribution System	Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine	Dioxede / Ozonated / Peroxizone / Fluc	oridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater	
Finishing:	Milk	Studge (Semi-solid Samples)
Starting:		☐ Soil/Sediment
Net (M³)	Wipes	☐ Biota (Type):
☐ Air Charcoal Cartridge	Radon Canister	Other:
Air Charcoal Carrindge		·
COMMENTS: (Cautions, etc.):		
Field Treatment: Preservatives added:	ced/Frozen:	Whar
☐ Field Measurement:mR/hr	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory a	nnoval)	
		- No. 11.
ANALYSIS REQUESTED (For questions, please call 510-620-29	- 1g	·
☐ Gross Alpha ☐ Gross & ☐ Gross & ☐ Total Uranium ☐ Total Br	~ <u>**</u>	
	· ·	
		mericium / Curium 💡
D II and	_ 100topic)	
	an isotopic i	
3.00.00	m-89, 90 🔲 Isotopic U	ranium
Other (Specify);	3	
HAIN OF CUSTODY JENNU Smith		
Date Name (Print)		8/16/12
	- Colerans du	Late 1200
Time Custody Received	Pigrarun	Time Custody Released
Date Name (Print)		Poto
	in the state of th	Date
Time Custody Received Organization	- Signature	Time Custody Released
Date Name (Print)		Date
13:00 DWRLB	Julan 3 MI	Mr. Care
Time Custody Received Organization	Signature	Time Custody Released
ABORATORY REMARKS (Leave Blank) 40.0	WR/HR	
Condition at Time of Receipt:		
Acceptable Holding Time Exceeded Sample Not Cooled	☐ Leaked in Transit☐ Insufficient Sample	☐ Improper Container
Preservatives/Carriers:	эдляс, лецииси	
Added White Sampling Added in Laboratory	☐ Not Added	
ing to the control of the control o	en en red er e r ever en delette re en	I BIOL DANISCHIA



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0362

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

ĊA 92626 CDPH - RHB, 1500 Capitol Av., MS 7610

CA 95814-5006

Sacramento

Phone Number: 916-440-7955

Phone Number: 714-850-4830

Site/Project Name: San Onofre NPP / August 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 8/17/2012

Parameter	Method	ethod Result +/- CE MDA 95		Method Result +/- CE		Units
Lab No: 12-0362-01	Sample ID: R 92149 Sample Type: Seawater	Time Collected: 8/15/2012	12:20 Sampling Point	: SONGS A		
Tritium	EPA 906.0	-106 +/- 150,0	262.0	pCi/L		

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR	SAMPLE ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	8-17-12 12-0362
Richmond, CA 94804 510 - 620 - 2930	"I Date & Time Sampled Serial Number
Alth Shiyamake Rubero	a 8/15/12 1220 R 92149
Collector Information	Reporting Information
Name: Jenny Smith	Name: Charactical
1Dept/Branch: NAME Applied Environment	
Address: 2000 Ken Hill Ave. Custa W	The residutess, All the IX (10) and the Alectical
Telephone No.: 124 - 850 - 48 30	Mesas Address: PO BOX 99-74H MS 7610
	Billing Agency
System Name / Facility: Sometime Point (s):	DWFOB() X RHB D RWQCB() DTSC
Sampling Point (s):	DWTPB D FDB D DWR D CDFG
System No.:	EMB Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment Plan	ont (WTP) Surface Water Wastewater Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorinated / Chl	lorine Dioxide / Ozonated / Peroxizone / Fluoriented / Coagulated / pH Adjusted
	78
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	. 🚇 Milk 🚨 Soil/Sediment
Starting:	. D Biota (Type):
Net (M³)	Radon Canister
☐ Air Charcoal Cartridge	0000.
COMMENTS: (Cardinas at)	
COMMENTS: (Cautions, etc.):	
Field Treatment: Preservatives added:	// Ced/Frozen: Other:
☐ Field Measurement:mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervise	sory appraval)
ANALYSIS REQUESTED (For questions, please call 510-6	520-2911 1
☐ Gross Alpha 🗽 🔲 Gr	ross Beta Gamma Scan
☐ Total Uranium ☐ To	otal Beta (SC)
	ritium (³ H) U Isotopic Americium / Curium
=	arbon-14
	dine-131 U Isotopic Thorium
ta	trontium-89, 90
7	ickel-63 Iron-55
CHAIN OF CUSTODY	U IIOI-55
1 8/15/12 Jenny Smith	
Date Name (Print)	Date
Time Custody Received Organization	1200 - 1200
Time Custody Received Organization	Signature Lime Custody Released
Date Name (Print)	Date
Time Custody Received Organization	
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	Date
<u> 13.00</u> DWR/1	B Caloria VI Que
Time Custody Received Organization	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank) 40	OI MRIHR
소문學學 가장 보고 있다면 하는 그는 사람들은 사람들이 되었다. 그는 사람들은 사람들이 되었다.	### 4위에 하는 항 가고 하다. 하루 7개 1개 1시 1시 1시 2시 2시 4시 4시 4시 4시 1시 4시
U Acceptable U Broken Container U Holding Time Exceeded U Sample Not Ceoled	Leaked in Transit
Preservatives/Carriers:	Insufficient Sample
☐ Added White Sampling ☐ Added in Laboratory	V O Not Added
The state of the s	Years and All Fa ngt Added and he has been a made at a made Applicable and the least the second



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0363

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610 95814-5006

Phone Number: 714-850-4830

Sacramento

CA

CA

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / August 2012 Billing Agency: RHB

Samples Received by Lab: 8/17/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0363-01 Sample ID: R 92151 Time Collected: 8/15/2012 12:35 Sampling Point: SONGS B Sample Type: Seawater K-40 EPA 901.1 347 +/- 22.6 83.3 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

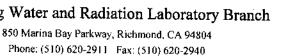
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

·	REQUEST FOR SAMPLE			* .
Sanitation and Radiation	n Laboratories Branch	§ Date	Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, Richmond, CA 94804.		8-1	7-12	12-03643
	10-620-2930		fine Sampled	Serial Number
Attn	Shiyamalle Rubera	1 8/15/	2 1235	R 92151
Collector Information	· 11-	Reporting Info	rmation	11 02202
Name: Jenny R	smin Enur some delle	Name: Sto	is Hen	
Dept/Branch, Misser は Address: スツソン ロ _っ み	ipplied Environmental Scen	Y∎Uept./Branch: (COBH-KAB	000 7/ 10
	Hul Ave CostaMesaice	Address. PO	150x 799 7	414 (05) 7610
Telephone No.:	<u>- 850 - 4830 - 1</u>	Telephone No.	and -440-	7840
Sample Information System Name / Facility:		Billing Agency		
Sampling Point (s):	SONGS	DWFOB ()		RWQCB() DTSC
	• 5	DWTPB		OWR D CDFG
System No.:	A	C EMID	Other (Spec	xty)
TYPE OF SAMPLE (Chec	k all applicable boxes)		· · · · · · · · · · · · · · · · · · ·	
Drinking Water	Groundwater	Surface Wat	er (☐ Wastewater
Raw	☐ Water Treatment Plant (WTP)	ିପ Distribution :	Svstem (Point of Use (POU)
☐ Treated (circle one): C	hlorinated / Chloraminated / Chlorine Dio	xide / Ozonated /	Peroxizone / Fluori	dated / Coagulated / pH Adjusted
Air Filters	Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:	· Marie Committee Committe	Milk		3 Soil/Sediment
Starting:		Wipes	the state of the s	
Net (M ³)				Biota (Type):
Air Charcoal Cartridge		Radon Canis	ster (Other:
- 711 Cristoda Caratage		<u> </u>		
COMMENTS: (Cautions, e	etc.):		ores a considerate and a second second	tion and the control of the second
I Field Treatment: Pre-	servatives added:	iced/Frozen:		er:
Field Measurement:	mR/hr	Radionuclide		· · · · · · · · · · · · · · · · · · ·
Rush/Priority (should be	e prearranged and have supervisory appro	civan)		
· · · · · · · · · · · · · · · · · · ·	(For questions, please-call 510-620-2911)	MR (<u> </u>	<u> </u>
i Gross Alpha		3 * * *	X	
Total Uranium	Gross Beta	4	Gamma Sc	
Total Radium	☐ Total Beta		NORM (Ga	•
Radium-226	☐ Tritium (³H	**************************************		ericium / Curium
Radium-228	☐ Carbon-14	E-	☐ Isotopic Plu	
Radon-222	☐ Iodine-131	Ti.	☐ Isotopic The	•
Other (Specify);	☐ Strontium-8	ຼົ ສຸສຸ ອບ	lsotopic Ura	nium
	Nickel-63		☐ Iron-55	
HAIN OF CUSTODY	tenny Smith		-	
Date	Name (Print)	4 / · \		2 16 12 Date
7235	MBC	Sou	ul de	> 🖫 1700
Time Custody Received	Organization	Spranie		Custody Released
Date	Name (Print)	1		Date
Time Custody Decaded	The second secon		·	Date
Time Custody Received	Organization UA	Signature	-	Time Custody Released
Date	Name (Print)			Date
Time Custody Received	DURIB -		long VA & /1	
ime Castody Received	Organization	Signature		Time Custody Released
ABORATORY REMARKS	(Leave Blank) L D D I A	AR/HP		
Condition at Time of Rec	eipt:			
O Holding Time Exceed	Broken Container G Sample Not Cooled	 Leaked in Tra Insufficient Si 	msit i.	Improper Container
Preservatives/Carriers:		新生产的 医多种性的		100명의 등의 후 중요되었다.
Added While Samplin	Added in Laboratory	Not Added		



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0364

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

Sacramento

CA 95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / August 2012

CA

System No:

Billing Agency: RHB

Samples Received by Lab: 8/17/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0364-01	Sample ID: R 92145 Sample Type: Seawater	Time Collected: 8/15/2012 1	2:35 Sampling Point	: SONGS B
Tritium	EPA 906.0	-66.7 +/- 151.4	262	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
	Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804	Date Received Lab No. (Leave Blank) 4-17-12 12-0364
L	Attn. Shiyamalle Rubera	8(15/121235 R 92145
ا 	Dept./Branch: MBC Applied Eviveronmental XVIII Address: 3000 Red Hill Ave Costa Mesa, Ex	Reporting Information Name: Steurc HSU Pept./Branch: CDPH RHB Address: PO BOX CIG-7414 MS 7610
	Sample Information	Telephone No.: GIL 440 - 7C418 Billing Agency DWFOB() XRHB RWQCB() DTSC DWTPB DFDB DWR DCDFG EMB DOther (Specify)
C	■ Raw	Surface Water
	AL PIA	Seawater Sludge (Semi-solid Samples) Milk Soli/Sediment Biota (Type): Radon Carrister
	Air Charcoal Cartridge	G Office:
	· 	ced/Frozen: Other: D Radionuclide(s), if known:
_	NALYSIS REQUESTED (For questions, please call 510-620-2911)	
0000000	Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radon-222 Other (Specify); Gross Beta Gross Beta Tritium (³H) Carbon-14 Carbon-14 Carbon-14 Carbon-131 C	SC) NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium Isotopic Uranium
1.	Date Date Name (Print) Date Name (Print)	Separation Date No. Property Property
3.	Date Name (Print) DWRIB	Signature Time Custody Released
LA A	BORATORY REMARKS (Leave Blank)	Signature Time Custody Released MR/H/R
В.	☐ Acceptable ☐ Broken Container: ☐ Holding Title Exceeded ☐ Sample Not Cooled ☐ Preservatives/Carriers:	Leaked in Transit
Lab	Added While Sampling D Added in Laboratory D 803 (11/07)	- Not reportable
		。



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0365

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

CA 95814-5006

Phone Number: 714-850-4830

Sacramento

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / August 2012

CA

Billing Agency: RHB

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0365-01	Sample ID: R 92153 Sample Type: Seawater	Time Collected: 8/15/2012 12:2	8 Sampling Poin	it: SONGS C
K-40	EPA 901.1	314 +/- 20.7	81,4	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Para .	REQUEST FOR SAMPLE			•
Sanitation and Radiation	Laboratories Branch	Date Rec	ceived	Lab No. (Leave Blank)
850 Marina Bay Parkway,	G164	1 -12-0	4-17-12	12-0365
1810.820.2014	10-620-2930	Date & Time	Sampled	Serial Number
1 Attn	shiyamalle Rubera 📑	8/15/12	1228	R 92153
Collector Information Name: Jenny Sm	+	Reporting Informa		N OLIO
Name: Jenny Sm	(11)	Mamor City 10	1 +	
IDept./Branch: IM457 □	しつりしょく トゥリックハスル ひんじ しょっこ	IDept./Branch: ← 🗅	DU - DING	<i>;</i>
92626	of Hill Ave. Costa Mesa, Ca	JANGGIGGS, PIJ 174)	Y (N) - ~1/1/1/	t M\$ 7610
Telephone No.: 114 -		Telephone No.: 6	imento, ca	୍ର ମୁ ଟ୍ଲସ୍
Sample Information	<u> 939 -18 K/</u>	Billing Agency	<u> 1110 - 440 -</u>	- (340)
System Name / Facility:	SONGS		ZIRHB □ R	RWQCB() DTSC
Sampling Point (s):	201/2	D DWTPB	O FOB O	WR DISC
System No.:	\mathcal{C}^{V}	EMB		fy)
TYPE OF SAMPLE (Check	k all applicable haves			· · · · · · · · · · · · · · · · · · ·
	•			
☐ Drinking Water ☐ Raw	☐ Groundwater ☐ Water Treatment Plant (WTP)	Surface Water	. [Wastewater
	hlorinated / Chloraminated / Chlorine Diox	Mo / Ozorated / De	rovines a 15 basel	Point of Use (POU)
				vated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	C Seawater		Sludge (Semi-solid Samples)
Finishing:		Milk		Soil/Sediment
Starting:		Wipes		Biota (Type):
Net (M ³)		Radon Canister		
☐ Air Charcoal Cartridge		Recon Carister	ب	Other:
		<u>*</u>	·	
COMMENTS: (Cautions, e	tc.):			O manager to the contract of t
Field Treatment: Pres	servatives added:	cet/Frozen:		er:
Field Measurement:	mR/hr			
	prearranged and have supervisory appro	ral)		
ANALYSIS REQUESTED (For questions, please call 510-620-2911)		· · · · · · · · · · · · · · · · · · ·	
Gross Alpha	☐ Gross Beta	ŧ	Dr. C	
☐ Total Uranium	☐ Total Beta	∮ ···	Camma Sca	
☐ Total Radium	☐ Tritium (³H)		O NORM (Gan	
☐ Radium-226	☐ Carbon-14	į	· · · · · · · · · · · · · · · · · · ·	ericium / Curium
Radium-228			☐ Isotopic Plut	
Radon-222	Odine-131	*	☐ Isotopic Tho	
	☐ Strontium-8		☐ Isotopic Ura	nium
Other (Specify);	□ Nickel-63	· · · · · · · · · · · · · · · · · · ·	`□ Iron-55	
CHAIN OF CUSTODY	Jenny Cratio			-1
	Name (Print)			8/16/12
122.8	MRC		1- 1 · 1	Date
Time Custody Received	Organization	Signature		Time Custody Released
Date		1 0	,	
Pale	Name (Print)			Date
Time Custody Received	Organization	Signature		Time Custody Released
1. 4-17-12	<i>U</i> / <u>/</u> 1	•		Time Custody Released
Date 3.70	Name (Print)	· // // //	101/1	Date
Time Custody Received	Organization OWK	Signature	oraly st	Time Control 2
ADOBATODY DELLA STORE			· · · · · · · · · · · · · · · · · · ·	Time Custody Released
ABORATORY REMARKS Condition at Time of Reci	(Leave Blank) $\leq 0.01 M$	R/HR		
□ Acceptable	☐ Broken Container	Leaked in Transit		☐ Improper Container
Holding Time Exceeds	요즘 아이지는 아이들은 아이를 보는 그리고 되는 일본이 되고 싶은 그리고 있다면 아이들은 생각 사람이다.	Insufficient Sampl		☐ Improper Container
Preservatives/Carriers:				
 Added While Sampling 	Added in Laboratory	Not Added		网络大型矿厂 经工作 电电流电流 电电路电路



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0366

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CA 92626

Sacramento

CDPH - RHB, 1500 Capitol Av., MS 7610 CA 95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / August 2012

Billing Agency: RHB

Samples Received by Lab: 8/17/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0366-01 Sample 1D: R 92155 Time Collected: 8/15/2012 12:28 Sampling Point: SONGS C Sample Type: Seawater Tritium EPA 906.0 -171.0 +/- 149 262 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation	n Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, Richmond, CA 94804	G164	8-17-12	2-03/1
510-620-2911	510 - 620 - 2930	Date & Time Sampled	Serial Number
HHY S	Shiyanalie Rubera	8/15/12 1228	R 92155
Collector information	•	Reporting Information	· · · · · · · · · · · · · · · · · · ·
Name: Jenny S	mith -	Name: Steve Hou	
Address: ROOC PO	pplied Environmental Steel	Address: OD POV - RHE	مُن جمود
92626	HILL AVE COSTA MESO, CO	Sacramon S	114 1115 1010
Telephone No.: 714	mith Applied Enurynmental Sound HILL Ave. Costa Mesa, Co850-4830	Telephone No.: (110-440-	7040 28 119
Sample Information System Name / Facility:	CANCC	1	
Sampling Point (s):	SONGS		RWQCB() D DTSC
	C		DWR DCDFG
System No.:		Tomer (open	×137)
TYPE OF SAMPLE (Chec	k all applicable boxes)		
☐ Drinking Water ☐ Raw	Groundwater	Surface Water	⊒ Wastewater
_ ;	Water Treatment Plant (WTP)	Distribution System	Point of Use (POU)
Treated (GIGH One), O	hlorinated / Chloraminated / Chlorine Diox	gde / Ozonated / Peroxizone / Fluori	dated / Coagulated / pH Adjusted
☐ Air Filters	" Date/Time	Seawater (Sludge (Semi-solid Samples)
Finishing:			☐ Soil/Sediment
Starting:		3 <u>4 -</u>	☐ Biota (Type):
Net (M ³)			Other:
Air Charcoal Cartridge			- Other.
			· · · · · · · · · · · · · · · · · · ·
COMMENTS: (Cautions, e		CLAP 1 A	A series and the series of the
i Field Treatment: Pres			ner:
· ·		Radionuclide(s), if known:	
J Rush/Priority (should be	prearranged and have supervisory appro	(val)	
NALYSIS REQUESTED ((For questions, please call 510-620-2911)	The second secon	
Gross Alpha	☐ Gross Beta	☐ Gamma So	an ·
Total Uranium	☐ Total Beta		
Total Radium	Tritium (3H)	F	nericium / Curium
Radium-226	Carbon-14	p	
Radium-228	☐ lodine-131	<u>, </u>	
Radon-222	☐ Strontium-8		•
Other (Specify);	Nickel-63	☐ !ron-55	· .
HAIN OF CUSTODY	1 6 1		
8/15/12	denny Smith		2/16/12
Date 1778	Name (Print)	100 - 1 -	Date
Time Custody Received	Organization	Signature	Time Custody Released
D-4-		Re V	Time Custody Released
Date	Name (Print)		Date
Time Custody Received	Organization	Signature	Time Custody Released
9-17-12 Date	<i>U</i> γ	. .	<u> </u>
13:00	Name (Print)	- Quetorio M.a	Date Date
Time Custody Received	Organization	Signature Signature	Time Custody Released
BORATORY REMARKS	(Longs Plant)		assert Hondach
Condition at Time of Rec	Alpt:	R/HR	
C Acceptable	Broken Container	Leaked in Transit	D improper Container
	ed Sample Not Cooled	☐ Insufficient Sample	
Preservatives/Carriers:	g Added in Laboratory		
- TANKO LANG SAINDAU	Added in Laboratory	Not Added	SOUTH A CASE AGAINST LINE SOUTH SOUTH



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0367

Collector:

System No:

Parameter

Robert Moore

MBC

Requestor: Roger Lupo

RHB

CA

CDPH - RHB, 1500 Capitol Av., MS 7610 95814-5006

Sacramento

CA

Phone Number: 916-440-7955

Phone Number:

Site/Project Name: San Onofre NPP / August 2012

Billing Agency: RHB

Samples Received by Lab: 8/17/2012

Method

Result +/- CE

MDA 95

Units

Lab No: 12-0367-01

Sample Type: Seawater

Sample ID:

R 92158

Time Collected: 8/15/2012 14:35

Sampling Point: SONGS D

K-40

EPA 901.1

349 +/- 21.4

80.5

pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Lab 803 (11/07)

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)				
Sanitation and Radiatio	on Laboratories Branch	Date Received	Lab No. (Leave Blank)	
850 Marina Bay Parkway Richmond, CA 94804	/, G164	8-12-12	12-0367	
510-620-2911 5	510-620 - 2930	Date & Time Sam		
	Shiyamalie Rubera	1 . 1 . 1	35 R 92158	
Collector Information		Reporting Information		
Name: R.b.	ert Moore	Mama Chere un	. 1	
Dept./Branch: MBC	Applied Enuronmontal So	Dept./Branch: $CDQL$	I-RHB	
92626	Applied Enuron montal Son and Hull Ave. Costa Mesci, C	TAddress: PO Box (77-7414 MS 7610	
Telephone No.: 7/4	-850-4830	Telephone No.:	ento (c. 95899) -440 - 7940	
Sample Information		Billing Agency		
System Name / Facility:	SONGS	- · · · · · · · · · · · · · · · · · · ·	RHB RWQCB() DTSC	
Sampling Point (s):		-∰□ DWTPB □ F	DB DWR CDFG	
System No.:		D EMB D (Other (Specify)	
TYPE OF SAMPLE (Chec	ck all applicable boxes)	No.		
Drinking Water	☐ Groundwater	Surface Water	☐ Wastewater	
□ Raw	 Water Treatment Plant (WTP) 	Distribution System	☐ Point of Lise (POLI)	
☐ Treated (circle one): C	Chlorinated / Chloraminated / Chlorine Dic	xide / Ozonated / Peroxizo	one / Fluoridated / Coagulated / pH Adjuste	
Air Filters	Date/Time	Seawater	☐ Sludge (Semi-solid Samples)	
Finishing:	<u> </u>	Milk	Soil/Sediment	
-,		Wipes		
Net (M³)	o Table Marie Communication	- 1250 - 1250	☐ Biota (Type):	
☐ Air Charcoal Cartridge		्रिपि Radon Canister	Other:	
	······································			
COMMENTS: (Cautions,	etc.):		and the second of the second of the second of	
·	eservatives added:	ced/Frozen:	Other:	
Field Measurement:	mR/hr	Radionuclide(s), if kn	own:	
Rush/Priority (should b	e preamanged and have supervisory appr	oval)		
ANALYSIS REQUESTED	(For questions, please call 510-620-2911		· · · · · · · · · · · · · · · · · · ·	
☐ Gross Alpha	☐ Gross Beta		Zamma Cana	
Total Uranium	☐ Total Beta	¥	Samma Scan	
☐ Total Radium	☐ Tritium (³H	,	NORM (Gamma)	
Radium-226	☐ Carbon-14	<u> </u>	sotopic Americium / Curium sotopic Plutonium	
Radium-228	☐ lodine-131		sotopic Platonium sotopic Thorium	
Radon-222	□ Strontium-	.a	sotopic Trionum sotopic Uranium	
Other (Specify);	7D Nickel-63		ron-55	
HAIN OF CUSTODY		· /		
15 Aug 12	Kabut Moore	* //	8/11/12	
Date J	Name (Phint)	Vealle	Date	
Time Custody Received	Organization C	Signature Signature		
· <u>Slb12</u>	-denny mith	O'BUGUIO A	Time Custody Released	
Date	Name (Print)	· () - (Date	
Time Custody Received	Organization	Signature	= 1700	
. / 4-17-12	1 16.3	**************************************	Time Custody Released	
Date 13:00	Name (Print)	177	On Ol. Date	
Time Custody Received	Organization	Signature Signature	Time Custody Released	
ABORATORY REMARKS			Time Custody Released	
Condition at Time of Rec	i (Leave Blank) C 0.01 M	KIHR	보험하는 본 회 성장 그들을 받았다.	
☐ Acceptable	□ Broken Container	D/ Leaked in Transit	Improper Container	
Holding Time Exceed	ded D Sample Not Cooled	Insufficient Sample		
Preservatives/Carriers:			등로 통통하였습니다. 그 전쟁을 보다	
Added While Samplin	ng Added in Laboratory	CI Not Added	D Not Applicable	



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0368

Collector:

Robert Moore

MBC

Requestor: Roger Lupo

RHB

CA

CDPH - RHB, 1500 Capitol Av., MS 7610 95814-5006

Sacramento

ÇA

Phone Number: 916-440-7955

Phone Number:

Site/Project Name: San Onofre NPP / August 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 8/17/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0368-01 Sample ID: R 92160 Time Collected: 8/15/2012 14:35 Sampling Point: SONGS D Sample Type: Seawater Tritium EPA 906.0 -106 +/- 150 262 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

·	REQUEST FOR SAMPLE	NALYSIS (Radio	ochemical)	
Sanitation and Radiation Lab	oratories Branch	Date Rec		Lab No. (Leave Blank)
850 Marina Bay Parkway, G16	4	4-1-	1+12	12-0368
Richmond, CA 94804 510 -	· 620 - 2930 🔻 🚶	Date & Time		Serial Number
Shiyar	nalu Rubera	8 15/12	1435	R 92160
Collector Information	\A	Reporting Informa	ition	1
1-0	Noore	Name: Steve	HSU	
Address: 3000 Rock H	plied Environmental Sea 11 Avé. Costa Mesa, Co	Address: PO B	DEH-EHB	4 ms 7610
Telephone No.: 714 - 8	50-4830	Li gightione 140" Ci	Ma-440 -	7940
Sample Information	CANICA	Billing Agency	,	
System Name / Facility: Sampling Point (s):	songs,	D DWFOB()	CIT FDB CI DV	VR DICIDEG 🚽
System No.:		Ø EMB 、	☐ Other (Specify	n
TYPE OF SAMPLE (Check all a	applicable boxes)		· · · · · · · · · · · · · · · · · · ·	
☐ Drinking Water ☐ Raw	☐ Groundwater ☐ Water Treatment Plant (WTP)			Wastewater Point of Use (POU)
Treated (circle one): Chloring	nated / Chloraminated / Chlorine Diox	ဖြွှဲe / Ozonated / Per	oxizone / Fluorida	ited / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater	<u> </u>	Sludge (Semi-solid Samples)
Finishing:	4	Milk		Soil/Sediment
Starting:	See the second s	Wipes		Biota (Type):
Net (M³)		Radon Canister	*	Other:
☐ Air Charcoal Cartridge		有		<u> </u>
COMMENTS: (Cautions, etc.):		N.	344	
☐ Field Treatment: Paeserva	tives added	leed/Frozen:	Othe	
	· · · · · · · · · · · · · · · · · · ·			
	mR/hr arranged and have supervisory appro	Radionuclide(s),	it known:	
		-	· ————————————————————————————————————	
	uestions, please call 510-620-2911)	支		№ 100 (100 (100 (100 (100 (100 (100 (100
☐ Gross Alpha	☐ Gross Beta	· 1 .	Gamma Scar	7
Total Uranium	☐ Total Beta		☐ NORM (Gam	
☐ Total Radium	Tritium (³ H)		Isotopic Ame	ricium / Curium
Radium-226	☐ Carbon-14	<u>4.</u>	☐ Isotopic Pluto	
Radium-228	Q lodine-131	3.	☐ Isotopic Thor	
Radon-222	Strontium-8	99 90	☐ Isotopic Uran	ium
Other (Specify);		# #	☐ Iron-55	
CHAIN OF CUSTODY	Pobert Moore			8/16/12
Date Nar	ne (Print)	* V Call	1	Date
Time Custody Received Org	anization	C Number	<i></i>	800
2 2110112	tenni mith	Signature		Time Custody Released
Date Nar	ne (Print)	} / .}		Date
Time Custody Received Org	anization (- delous	AL AL	· <u></u>
4-17-12	11 A	Signature		Time Custody Released
	ne (Print)			Date
Time Custody Received Org	anization DWRLB	Signature	vall. Ole	Time Custody Released
ABORATORY REMARKS (Les	we Riarik)		Berlin Till Vill Nation	
Condition at Time of Receipt:		UR/HR		
Acceptable Holding Time Exceeded	Cl Broken Container Cl Sample Not Cooled	D. Leaked in Transit D. Insufficient Samp		C) Improper Container
Preservatives/Carriers:	D Artchart in Cabinestons	D' Mar A bland		



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0281

Collector:

Jenny Smith

RHB

CA

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300

CDPH - RHB, 1500 Capitol Av., MS 7610

Costa Mesa

92626

Sacramento CA 95814-5006 Phone Number: 916-440-7955

Phone Number: 714-850-4830

Site/Project Name: San Onofre NPP / July 2012

System No:

Billing Agency: RHB

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0281-01	Sample ID: R 92126 Sample Type: Seawater	Time Collected: 7/16/2012 10:	38 Sampling Point	: SONGS A
K-40	EPA 901.1	356 +/- 17.9	60.6	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SAMPLE	NALYSIS (Radiochemical)	
Sanitation and Radiation Labo 850 Marina Bay Parkway, G164	ratories Branch	Date Received	Lab No. (Leave Blank)
Richmond, CA 94804	· 620 - 2950	7-18-12	12-0281
510-620-2911 A Maria	apamalic Respond	Date & Time Sampled	Serial Number
<u> </u>	About the Control of the Control	7/16/12 1038	R 92126
Collector Information	5		N OF TEO
Jent/Branch: 1912 C. Asol	and Employment & Co.	Name: Stove Hou	
iddress: 3000 Red Uil	LAR COSTA MARKET	Address: D) S CO	B 14 MS 7/10
92626	n Led Environmental Size I Ave. Costa Mosa, Ca	Address: P) Box or -7	160 00899
elephone No.: 4-95	<u>0 - 4830 /</u>	elephone No.: Chin - 440	-7640
vetem Name / Encility:	a	Struck Valench	
Sampling Point (s):	DNGS *	DWFOB() AT RHB	RWQCB() DTSC *
S	٨	☐ EMB ☐ Other (Sp	
system No.:		(0)	
YPE OF SAMPLE (Check all ap	•		
Drinking Water Raw	Groundwater Water Treatment Blant (M/TD)	Surface Water	Wastewater
	 Water Treatment Plant (WTP) ted / Chlorine Dio 	ide / Ozonatod / Dansilla / Ozonatod	Point of Use (POU) pridated / Coagulated / pH Adjusted
		- Ozonaled / Peroxizone / Fluc	ondated / Coagulated / pH Adjusted
Air Filters	Date/Time	Seawater	☐ Sludge (Semi-solid Samples)
Finishing:		₫ Milk	☐ Soil/Sediment
Starting:	<u> </u>	Wipes	D Biota (Type):
Net (M ³)	<u></u>	Radon Canister	Other:
Air Charcoal Cartridge	· · · · · · · · · · · · · · · · · · ·		
MMENTS: (Continue :-t-)			
DMMENTS: (Cautions, etc.): Field Treatment: Preservativ			<u> </u>
			ither:
	mR/hr	Radionuclide(s), if known:	
	anged and have supervisory appro		
	estions, please call 510-620-2911)		Market Committee
Gross Alpha	☐ Gross Beta	∯ Gamma S	Scan
Total Uranium	☐ Total Beta (NORM (G	
Total Radium	☐ Tritium (³ H)	7	mericium / Curium
Radium-226	् □ Carbon-14	☐ Isotopic P	
Radium-228	☐ lodine-131	☐ Isotopic Ti	
Radon-222	☐ Strontium-8	9, 90 🔲 Isotopic U	
Other (Specify);		" □ Iron-55	
AIN OF CUSTODY	0 1		
Date North	enny Smith		7/17/12-
1∩3%		()	Date
Time Custody Received Organi		Signatura	Time Custody Released
Date Name	(Print)		
			Date
Time Custody Received Organi	zation	Signature	Time Custody Released
Date Name	(Print)		
11.30	DURIR	() uland MI O.L.	Date
Time Custody Received Organia	zation	Signature	Time Custody Released
ORATORY REMARKS (Leave	Blank)	ODI MR/HR	
Condition at Time of Receipt: Cl Acceptable			
☐ Holding Time Exceeded		Leaked in Transit Insufficient Sample	☐ Improper Container
Preservatives/Carriers:		 изинский рашою 	
Added While Sampling	☐ Added in Laboratory (☐ Not Added	
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Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0282

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300

CDPH - RHB, 1500 Capitol Av., MS 7610

95814-5006

Costa Mesa

92626

Sacramento

CA

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / July 2012

CA

System No:

Billing Agency: RHB

Samples Received by Lab: 7/18/2012

Parameter Method Result +/- CE **MDA** 95 Units Lab No: 12-0282-01 Sample ID: R 92127 Time Collected: 7/16/2012 10:38 Sampling Point: SONGS A Sample Type: Seawater Tritium EPA 906.0 **-94.2** +/**-** 151 262 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPL	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	7-18-12 12-0182
Richmond, CA 94804 GO - (20 - 20 30)	Date & Time Sampled Serial Number
PHY PHILLIPSING KINEST "	7/16/12 1038 R 92127
Collector Information	Reporting Information
Name: Jenny Smith	Name: Steve HSU
Dept./Branch: MBC Applied Environmental Scie	Mept./Branch: COPH -KHB
15/2 Sea Hill the Ostalle	Hadress PO BOX CICL 14 III III S 140
Address: 3000 Red Hill Ave. Costa Mesa Ca Telephone No.: 14-850-4850	Felephone No.: (1) 2000 - 1000
Sample imprimation	Billing Agency
System Name / Facility: CONGS	DWFOB() XRHB IRWQCB() IDTSC
Sampling Point (s):	D DWTPB D FDB D DWR D CDFG
System No.:	☐ EMB ☐ Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater	Surface Water
☐ Raw ☐ Water Treatment Plant (WTP) Distribution System
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Did	oxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater
Finishing:	☐ Milk ☐ Soil/Sediment
Starting:	Wipes □ Biota (Type):
Net (M³)	
☐ Air Charcoal Cartridge	Radon Canister
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	led/Frozen: Other:
☐ Field Measurement:mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory app	ro(al)
ANALYSIS REQUESTED (For questions, please call 510-620-291	1)
☐ Gross Alpha ☐ Gross Bet	ta 🚨 Gamma Scan
☐ Total Uranium ☐ Total Beta	
☐ Total Radium ☐ Tritium (3)	·, · · · · · · · · · · · · · · · · · ·
☐ Radium-226 \ ☐ Carbon-1	
☐ Radium-228 ☐ Iodine-13	
Radon-222 Strontium	
☐ Other (Specify); ☐ Nickel-63	
CHAIN OF CUSTODY	
1. 7/16/12 Jenny Smith	7/17/12
Date Name (Print)	Date
Time Custody Received Organization	Time Custody Released
Date Name (Print)	The state of the s
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	
Date (11:30) Name (Print) DWRLB	Date Date
Time Custody Received Organization	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank)	
Condition at Time of Receipt:	麗 내가 되면 살려는 것이다. 그리다가 그 말라지 않는
☐ Acceptable ☐ Broken Container ☐ Holding Time Exceeded ☐ Sample Not Cooled	☐ Leaked in Transit ☐ Improper Container ☐ Insufficient Sample
. Preservatives/Carriers:	Age
. Preservatives Carriers: ☐ Added While Sampling ☐ Added in Laboratory.	D Not Aridad



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0283

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610 Sacramento

95814-5006

Phone Number: 714-850-4830

CA

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / July 2012

CA

System No:

Billing Agency: RHB

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0283-01	Sample [D: R 92130 Sample Type: Seawater	Time Collected: 7/16/2012	10:54 Sampling Point	SONGS B
K-40	EPA 901.1	316 +/- 22.7	86.5	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

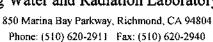
⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	#露まれ、われて主張の聖典劇がたっただ。おしかす (集) かった (Mario 大行き)が行った地域であれた。
Richmond, CA 94804 510 - 620 - 2030	
510-620-2911 Atty Shryamatic Redocka	
Collector Information	7/16/12 1054 R 92130
la a	Reporting Information
Dept./Branch: MBC Applied Environmental Scient Address: 3000 Red Hill Ave. Costa Mesa, Ca. 92626	Name: Steve Hsu
Address: 3000 Red Will Ave Costa Mesa, Casta	Address: D. Boy Co. days Occ. 11
92626	Sacramento, 6 95819
Telephone No.: 714 890 - 4830	The elephone No.: City - 440 - City
pro-titioutilities	politing Agency
System Name / Facility: SONGS	DWFOB() DYRHB D RWQCB() DTSC
Odinping Forit (a).	DWTPB DYFDB DWR DCDFG
System No.:	EMB Cl Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
· · · · · · · · · · · · · · · · · ·	
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	Surface Water
- Mater Heating It I I I I I I I I I I I I I I I I I I	Distribution System Point of Use (POU)
	de / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjuste
☐ Air Filters Date/Time	Seawater Studge (Semi-solid Samples)
Finishing:	E/
Starting:	— Comocdinian
	☐ Wipes ☐ Biota (Type):
Net (M³)	Radon Canister
Air Charcoal Cartridge	
COMMENTS: (Cautions and)	
OMMENTS: (Cautions, etc.)	
- -	Sedif-rozen: Other:
Field Measurement:mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory applications)	val)
NALYSIS REQUESTED (For questions, please call 510-620-291)	<u>sc </u>
☐ Gross Alpha ☐ Gross Beta	Gamma Scan
Total Uranium	SC) 🔲 NORM (Gamma)
Total Radium 🔾 Tritium (³ H)	☐ Isotopic Americium / Curium
Radium-226 🔲 Carbon-14	☐ Isotopic Ptutonium
Radium-228 🗅 todine-131	☐ Isotopic Thorium
Radon-222 Strontium-8	
Other (Specify); Nickel-63	
HAIN OF CUSTODY	' □ tron-55
TAIN OF CUSTODY	
Date Name (Print)	7/17/12
-1054 mBC	Date
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	Time obstody (teleased)
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
7-14-12 UA	Signature Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization	(Juloma M Ola.
	Signature Time Custody Released
BORATORY REMARKS (Lessia Riank)	
Condition at Time of Receipt	
☐ Acceptable ☐ Broken Container ☐ Holding Time Fabreded ☐ Sample Not Cooled	Leaked in Transit
생활으로 하다는 점점 하나 없다. [1] 그 경우는 사람들은 사람들이 되었다면 하는 사람들이 되었다면 하다면 하는데 하다 되었다면 하다면 하다면 하다면 하다면 하다면 하다면 하다면 하다면 하다면 하	Insufficient Sample
Proservatives/Carriers:	
☐ Added While Sampling ☐ Added in Laboratory	Not Applicable
9803 (11/07)	

 u_{ℓ_t}



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0284

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

95814-5006

CA

Sacramento

CA

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / July 2012

System No:

Billing Agency: RHB

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0284-01	Sample ID: R 92131 Sample Type: Seawater	Time Collected: 7/16/2012	10:54 Sampling Point	: SONGS B
Tritium	EPA 906.0	-76.5 +/- 151	262	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SAMPLE	ANALYSIS (Rad	iochemical)	
Sanitation and Radiatio		Date Re	opived	Lab No. (Leave Blank)
850 Marina Bay Parkway	, G164	714	12	12-0284
510-620-2911	10 - 620 - 2530	Date & Time		Serial Number
A Ha	Ompanika Rebins	7/16/12	1054	R 92131
Gollector Information	11.	Reporting Inform	ation	1, OL 3, O L
Name: Johny S	miti)	Name: Steve	HSU.	€ ₇
Address: 12000 12	police Environmental Second	MUedt./Branch: 🦰 🕾	NIBU 17711/2	205 71 10
127.102.10	of Hilly Ave. Costo Meson	ECIC	\times 90-741	4 1115 1610
Telephone Mar.	850 - 4830	elephonesino.:	- 440 - مالة	7040
Sample Information	그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그	Billing Agency	3	
System Name / Facility: Sampling Point (s):	301/16 3	DWFOB() DWTPB		RWQCB() DTS&
v :	B	EMB		DWR CDFd
System No.:			— Jakon (oper	
TYPE OF SAMPLE (Chec	k all applicable boxes)			· · · · · · · · · · · · · · · · · · ·
Drinking Water 🔔 🔲 Raw	Groundwater	Surface Water		☐ Wastewater
	☐ Water Treatment Plant (WTP)	Ulstribution Sys	tem (Point of Use (POU)
a meated (dide one). C	Chlorinated / Chloraminated / Chlorine Dio	wide / Ozonated / Pe	roxizone / Fluori	dated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater	(☐ Słudge (Semi-solid Samples)
Finishing:		Milk Milk		☐ Soil/Sediment
Starting:		Wipes	. [☐ Biota (Type):
Net (M³)		Radon Canister		Other:
☐ Air Charcoal Cartridge		.		
COMMENTS: (Oscillana)			· · · · · · · · · · · · · · · · · · ·	
COMMENTS: (Cautions,				a de la facilitat de la composição de la constante de la cons
J Field Treatment: Pre	to the control of the	ced/Frozen:	Oti	her:
☐ Field Measurement:	mR/hr	Radionuclide(s)	, if known:	
	e preamanged and have supervisory appr			
ANALYSIS REQUESTED	(For questions, please call 510-620-2911)			
☐ Gross Alpha	☐ Gross Beta	4	☐ Gamma So	ean
☐ Total Uranium	☐ Total Beta	(LSC)	O NORM (Ga	rnma)
Total Radium	Tritium (³ H) <u>*</u>		nericium / Curium
Radium-226	☐ `Carbon-14	· ·	☐ Isotopic Plu	utonium
Radium-228	☐ lodine-131	i,	Isotopic The	orium
Radon-222	☐ Strontium-t	3 <mark>9</mark> , 90	Isotopic Un	anium
Other (Specify);	Dickel-63		☐ Iron-55	
HAIN OF CUSTODY	N C - 1 A			
7-16-12-	Name (Print)	1 A 6 1		7-17-17-
1054	- MBC	e Kolo	ر زاد کار	Date 700
Time Castory Received	Organization	Signature		Time Custony Released
Date	Name (Print)			Date
T 0 1. 5				
Time Custody Received	Organization U A	Şignature		Time Custody Released
Date	Name (Print)		04 0	Date
Time Custody Received	Organization DUPLYS	- Nul	onall a	<u> </u>
	·············	Signature Signature	. V(, = 0	Time Custody Released
ABORATORY REMARKS	(Leave Blank)	OIMR/HI	R	
Condition at Time of Rec	Calipt: Di Broken Container	☐ Leaked in Transi		
O Holding Time Exceed	ded G Sample Not Cooled	Insufficient Same	xle	☐ Improper Container
Preservatives/Carriers:				
Added While Sampling	ng D Added in Laboratory	☐ Not Added		D Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0285

Collector:

Jenny Smith

RHB

CA

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

CA 95814-5006

Phone Number: 714-850-4830

Sacramento

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / July 2012 System No:

Billing Agency: RHB

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0285-01	Sample ID: R 92134 Sample Type: Seawater	Time Collected: 7/16/2012	10:47 Sampling Point	t: SONGS C
K-40	EPA 901.1	364 +/- 20.9	79.0	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUE	ST FOR SAMPLE	ANALYSIS (Rad	iochemical)	
Sanitation and Radiation Laboratories Branc	h	Date Re	ceived	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164		1 1 - 1.	, , ,	
Richmond, CA 94804 510 - 620 - 24	130 S	Date & Time	(-12	12-0285
Athi: Shi yanate	Rubera 5	Date or time	s Sampled).	Serial Number
Collector Information	-	1 1 10 112	1047	R 92134
Name: Jenny Smith		Reporting Inform		
Dept/Branch: MRC Applied Environ Address: 3000 Red Hull Ave. (montal Score	Name: Steve	HSU!	
Address: 3000 Page Hill Albert	The Market	Address: Do 2	SHIKHE	41 - XAS TI-10
92626 FUT AVE	mark and the second	Socie	iminto, C	114 1117 1010
Tatephone No.: 114 - 850 - 4830)	Troightions 140" (346-447	7040
System Name / Facility: SONGS		Billing Agency		
Sampling Point (s):	بر. نو:	DWFOB()	RHB 🛈 F	(WQCB() DTSC
		DWTPB	FDB D	
System No.:		C EMID	Other (Speci	^{ty)} ——— ,
TYPE OF SAMPLE (Check all applicable boxes)			····	
☐ Drinking Water ☐ Groundwate	er 🦄	☐ Surface Water	L.	! ! \\\antounts=
☐ Raw ☐ Water Trea	ment Plant (WTP)	Distribution Svet	tem 🗆	Wastewater Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloramin	ated / Chlorine Dio	de / Ozonated / Per	roxizone / Fluorid	ated / Coagulated / nH Adjusted
The second second		· · · · · · · · · · · · · · · · · · ·		
Finishing:		Seawater		Sludge (Semi-solid Samples)
	<u> </u>	□: Milk	. \square	Soil/Sediment
Starting:		☐ Wipes		Biota (Type):
Net (M³)		Radon Canister		Other:
Air Charcoal Cartridge		[·	_	Other.
CONTENTAL (C)				· · · · · · · · · · · · · · · · · · ·
COMMENTS: (Cautions, etc.):		e year and	, , , , , , , , , , , , , , , , , , , 	
D Field Treatment: Preservatives added:		cèd/Frozen:	Oth	er:
Field Measurement:		2 Radionuclide(s),	if known:	
Rush/Priority (should be preamanged and have	e supervisory appr	val)	3	
ANALYSIS REQUESTED (For questions, please	call 510-620-2911		···	
☐ Gross Alpha	☐ Gross Beta	• •	W 0 -	
☐ Total Uranium	☐ Total Beta	001:	Gamma Sca	
☐ Total Radium	_ F	-30)	NORM (Gan	•
☐ Radium-226	Tritium (³ H)		Isotopic Ame	
□ Radium-228	Carbon-14	:	Isotopic Plut	
☐ Radon-222	lodine-131		☐ Isotopic Thor	•
Other (Specify);	Strontium-89	1.500 1.500	☐ Isotopic Urar	nium
	□ Nickel-63	<i>Y</i>	☐ Iron-55	<u>.</u>
CHAIN OF CUSTODY	nto !			
Date Name (Print)	111111	()		31212
1047 - MRC		L 10	()	Date
Time Custody Received Organization 2.	7	Signature	1	Time Custody Released
Date Name (Print)		\mathcal{N}) .	
- Table (* mis)	A Ja		•	Date
Time Custody Received Organization		Signature		Time Custody Released
Date Name (Print)				THIS COSLOUY REPRISED
- 11:31) DUK	1B 3	17 1	man man	Date
Time Custody Received Organization		ignature CO	pro YII. MI	
ABORATORY REMARKS (Leave Blank)				Time Custody Released
A. Condition at Time of Receipt:	6001 N	1e/HR		
Acceptable Broken C	ontainer :	Leaked in Transit	and the committee to be a second	☐ Improper Container
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Preservatives/Carriers:				
☐ Added While Sampling ☐ Added in	Laboratory	Not Added		



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0286

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CDPH - RHB, 1500 Capitol Av., MS 7610

Sacramento

ÇA 95814-5006

CA Phone Number: 714-850-4830

Site/Project Name: San Onofre NPP / July 2012

Phone Number: 916-440-7955

System No:

Billing Agency: RHB

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0286-01	Sample ID: R 92135 Sample Type: Seawater	Time Collected: 7/16/2012	10:47 Sampling Points	SONGS C
Tritium	EPA 906.0	15.7 +/- 153.0		pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

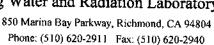
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

A	REQUEST FOR SAMPL	E ANALYSIS (Rad	liochemical) 🛹	a year .
Sanitation and Radiation 850 Marina Bay Parkway	on Laboratories Branch	Date Re	ceived	Lab No. (Leave Blank)
Richmond, CA 94804	9.5 - 6.25 - 293 0	7-14	12	12-0286
510-620-2911	90 - 620 - 2137	Date & Time		Serial Number
/3(T) \	Surprising KIDMA	16/12	1047	D 0040E
Collector Information	Smith Applied Environmental Sciences	Reporting Inform	ation	N JETJJ
Dept/Branch: #40 / 7	Cooking Cookingson	Name: Steve	HSU	
Address: 3000 0	there exists with 2600	NUept./Branch:	OPH-RHB	202 7(10
92626	- (400 Mes - 34)	4:: 1~ D	XX """ (*+	14 1112 1 W.A
TOPHOLIO HOM	- 850 - 4830	_ Melephone No.: (amento (C	7040
Sample Information System Name / Facility:	CANCO	Tenning Agency		
Sampling Point (s):	SONGS	DWFOB()	RHB DR	WQCB() DTSC
O	\bigcirc	DWTPB	The Population of the Control of the	WR C) CDFG
System No.:			Outer (Speci	······································
TYPE OF SAMPLE (Chec	· · · · · · · · · · · · · · · · · · ·			
Drinking Water :	Groundwater	Surface Water		Wastewater
	Water Treatment Plant (WTP)	☐ Distribution Sys	tem i	Daint of the read in
	Chlorinated / Chloraminated / Chlorine Dio	xide / Ozonated / Pe	roxizone / Fluorid	ated / Coagulated / pH Adjusted
1 Air Filters	Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:		Milk	_	Soil/Sediment
Starting:		Wipes		
Net (M³)		Radon Canister		Biota (Type):
Air Charcoal Cartridge				Other.
OMMENTS: (Cautions,				
				A Company of the Comp
Field Measurement:	*** · ***	ced/Frozen:	Othe	
	mR/hr	Radionuclide(s)	, if known:	
	e prearranged and have supervisory appro	<u> </u>		
	(For questions, please call 510-620-2911)	•		
Gross Alpha	☐ Gross Beta	Ť.	☐ Gamma Sca	П
Total Uranium	☐ Total Beta	(LSC)	☐ NORM (Garr	ıma)
Total Radium	"☐ Tritium (³H)		☐ Isotopic Ame	
Radium-226	Carbon-14		☐ Isotopic Plute	
Radium-228	☐ lodine-131	The state of the s	☐ isotopic Thor	
Radon-222	☐ Strontium-8	9, 90	☐ Isotopic Uran	
Other (Specify);	Dickel-63	Jan 1985.	☐ iron-55	
IAIN OF CUSTODY	1 2 1	7		
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Time Custody Received	Organization DURUS	- We	Cours I D	<u></u>
•		Signature	·	Time Custody Released
BORATORY REMARKS Condition at Time of Rec	(Leave Blank)	DIURIHR		
C Acceptable	D Broken Container	D Leaked in Transit		
O Holding Time Exceeds	ed Q Sample Not Cooled	Insufficient Sampl	•	☐ Improper Container
Preservatives/Carriers:				
 Added While Sampling 	9 Added in Laboratory	Not Added		The state of the s



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0287

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610 95814-5006

Sacramento

CA

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / July 2012

CA

System No:

Billing Agency: RHB

Samples Received by Lab: 7/18/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0287-01 Sample ID: R 92137 Time Collected: 7/16/2012 12:15 Sampling Point: SONGS D Sample Type: Seawater K-40 EPA 901.1 318 +/- 19.9 74.7 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

<u> </u>	REQUEST	FOR SAMPLE:	ANALYSIS (Radiocl	hemical)		
Sanitation and Radiation La	aboratories Branch	-	Date Receiv	ed	Lab No. (Leave	- 11 1
350 Marina Bay Parkway, G1			1 11/8-1	2	12-00	82
Richmond, CA 94804			Date & Time Sa		Serial Num	
Afth: 3h	Myamala Row	200	3/16/12 12	15	R 921	.37
collector Information lame: Robert M			Reporting Information	on		
ent Branch: No. 1	ind Employeans	antal Som	Name: Steve H.	<i>3</i> 0		
ept./Branch: MBC Appl ddress: 3000 Ped 92626	Him Aur. Cos	ta Mesa, (a	Address* PO BOX	79-741 29-741 nento: Ca	4-MS 7610)
elephone No.: $7/4 - 8$	<u>sso - 4830 ***</u>		Telephone No.: All Billing Agency	g - 440 -	7940	· · · · · · · · · · · · · · · · · · ·
System Name / Facility:	SONGS		,	RHB □ R	WQCB() 🗓 [OTSC
iampling Point (s):	D1463	/	🖸 DWTPB 🔼	FDB Q D Other (Speci	WR 🗀 (CDFG
ystem No			a.			<u> </u>
YPE OF SAMPLE (Check al						
Drinking Water Raw Treated (circle one): Chlor	☐ Groundwater ☐ Water Treatme	ent Plant (WTP) 🖟	Surface Water Distribution System)	Wastewater Point of Use (POL	J)
Treated (circle one): Chlor			<u> </u>	·· · · · · · · · · · · · · · · · · · ·	·	
Air Filters	Date/Tin	ne 💃	Seawater		Sludge (Semi-soli	d Samples)
Finishing:		<u> </u>	Milk		Soil/Sediment	
Starting:			Wipes	, Q	Biota (Type):	100
Net (M ³)		4	Radon Canister	· •	Other:	
Air Charcoal Cartridge						· · · ·
OMMENTS: (Cautions, etc.)	• * * * * * * * * * * * * * * * * * * *				and the same	
Field Treatment: Preserv	Charles and the second	*	ced/Frozen:	Oth	(na i i i go de altre effe.
Field Measurement:	···				ы. <u> </u>	
Rush/Priority (should be pro		· · · · · · · · · · · · · · · · · · ·	Radionuclide(s), if	Known:		
			y -		·	
NALYSIS REQUESTED (For	questions, please car	. j. j. j. j.	\		•	
Gross Alpha		☐ Gross Beta	2	Gamma Sca		
Total Uranium		Total Beta	•	I`NORM (Gan	•	ξ÷.
Total Radium		Tritium (³ H)	•		ericium / Curium	
Radium-226		☐ Carbon-14		Isotopic Plut		
Radium-228		lodine-131	·	I sotopic Tho	rium	
Radon-222		☐ Strontium-8		l Isotopic Ura	nium	
Other (Specify);		☐ Nickel-63	:	l Iron-55	·	
IAIN OF CUSTODY	DILL	:			1	- /-
Date / 17 N	ame (Print)		" [] 110		Date /c	y 14
1215	mac_	:	Rule Kille		_ /430	· i
	rganization	3	Signature		Time Custody	Released
Date N	Tenny Smrt				Date	12
1430	misc		Libour de	- J) ·	Z1300	
~ ~ ~	rganization		Signature		Time Custody	
Date /- 14-1	ame (Print)			•	B	
11:30	DIW l	RLB :	Same of		Date	
	rganization		Signature	·	Time Custody	Released
BORATORY REMARKS (Le	eave Blank)					
Condition at Time of Receip	t:		1R/HR			
Acceptable Holding Time Exceeded	Broken Con Sample Not		Ceaked in Transit	원. 교육의 항공	☐ Improper Cont	alner
- Lickriff 1816 Exceede6	Sample Not	(C00180	Insufficient Sample			
Preservatives/Carriers: Added While Sampling	☐ Added in La	iboratory i	Not Arided			



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0288

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

ÇA 95814-5006

CA Phone Number: 714-850-4830 Sacramento

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / July 2012

Billing Agency: RHB

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0288-01	Sample ID: R 92143 Sample Type: Seawater	Time Collected: 7/16/2012	12:15 Sampling Point	SONGS D
Tritium	EPA 906.0	-13.7 +/- 153	262	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE		
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	7-18-12	12-0288
Richmond, CA 94804 (1) - (2) - 2(13)	, Date & Time Sampled	Serial Number
510-620-2911 All This jamatic 1201321	7/16/12 1215	R 92143
Collector Information Name: Poblet Moore Dept./Branch: MBC Applied Environmental Science Address: 3000 Red Hull Ave. CostaMesa, Ca	Reporting Information Name: SHOVE HSU Dept./Branch: CDPH-RHB	14 MS 7610
PAGGIESS. 3000 REGITALLY AVE. COSTAMISA, CA.	Address: PO BOX 91-74 Sacramento, C	4 11/2 1010
Telephone No.: 114 - 850 - 4830	Telephone No.: CII - 440	- 7040
	Billing Agency	
System Name / Facility:	D DWFOB() DX RHB D F	RWQCB() DTSC
Sampling Point (s):	L	OWR CDFG
System No.:	C Cuter (open	"17/
TYPE OF SAMPLE (Check all applicable boxes)	È	_
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)		Wastewater Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	de / Ozonated / Peroxizone / Fluori	dated / Coagulated / pH Adjusted
☐ Air Filters Date/Time		Sludge (Semi-solid Samples)
Finishing:	Milk	☐ Soil/Sediment
Starting:	Wipes 0	Biota (Type):
Net (M³)	Radon Canister (☐ Other:
☐ Air Charcoal Cartridge		
COMMENTS: (Cautions, etc.):		
☐ Field Treatment: Preservatives added:	ced/Frozen:Otl	ner:
	Radionuclide(s), if known:	
Rush/Priority (should be prearranged and have supervisory appro		v
ANALYSIS REQUESTED (For questions, please call 510-620-2911)		
☐ Gross Alpha ☐ Gross Beta	3 2:	can ·
☐ Total Uranium ☐ Total Beta	₩	- · · · · · · · · · · · · · · · · · · ·
☐ Total Radium ☐ Tritium (³H)	· 	nericium / Curium
☐ Radium-226 ☐ Carbon-14	·	
☐ Radium-228 ☐ Iodine-131	•	
☐ Radon-222	W	anium
Other (Specify); Other (Specify);	☐ Iron-55	· · · · · · · · · · · · · · · · · · ·
CHAIN OF CUSTODY		1.111
Date Name (Print)	7/11	Date Date
Time Custody Received Organization	Signature	Time Custody Released
2 7/11/2/12 Tennulmith		7/17/17
Date Name (Print)	Table 1 also	Date
Time Custody Received Organization	Signature	Time Custody Released
3. Date Name (Print)		O Date
1130 DWKLB	Velora M.	lli
Time Custody Received Organization	Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank)	DOI MR/HR	
A. Condition at Time of Receipt: □ Acceptable □ Broken Container	D Leaked in Transit	☐ Improper Container
☐ Holding Time-Exceeded ☐ Sample Not Cooled	O Insufficient Sample	
B. Preservatives/Carriers: ☐ Added White Sampling ☐ Added in Laboratory	D Not Added	☐ Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0211

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

CA 95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / June 2012 Billing Agency: RHB

Samples Received by Lab: 6/20/2012

Parameter	Method	Result +/- CE MDA 95		Units	
Lab No: 12-0211-01	Sample ID: R 92048 Sample Type: Seawater	Time Collected: 6/18/2012	10:52 Sampling Point	: SONGS A	
K-40	EPA 901.1	369 +/- 23.1	83.7	pCi/l.	

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

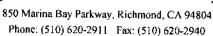
⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Lab 803 (11/07)

	REQUEST FOR SA	MPLE ANALYSIS (Radiochemical)	
Sanitation and Radiation	Laboratories Branch		te Received	Lab No: (Leave Blank)
850 Marina Bay Parkway,	G164	7.7	۵n//a	12-02//
510-620-2911	10-620-2930	Date 8	Time Sampled	Serial Number
Attn:	sniyamalie Rubera	6/18/12	1052	R 92048
Collector Information		Reporting In	formation	
Name: Jenny Sm	artr)	Name:/Ste	COPH-RHB	
PeptyBrauch: MRC t	ipplied Environment	Dept./Branch	COPH-RHB	500 76.10
3000 Ke	HULL Ave. Costa Mus	C Tradiess FO	scramento, C	
	- 850 - 4830	Telephone No	916-440	- 7940
Sample Information		* Billing Agend	СУ	
System Name / Facility: Sampling Point (s):	SONGS	DWFOB (RWQCB() DTSC
#	Α	DWTPB		OWR CICDEG
System No.:	<u> </u>	TO ENIO	Other (Spec	my) '
TYPE OF SAMPLE (Check	k all applicable boxes)	**		
☐ Drinking Water	☐ Groundwater	Surface W	ater D	3 Wastewater
☐ Raw	□ Water Treatment Plant ((WTP) ≱□ Distribution	n System 🕻	Point of Use (POU)
ireated (circle one): Cl	hlorinated / Chloraminated / Chlori	ne Dioxide / Ozonated	l / Peroxizone / Fluorid	dated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater	· Γ	Sludge (Semi-solid Samples)
Finishing:		Milk		3 Soil/Sediment
Starting:		∜□ Wipes	`	
Net (M ³)		Radon Can		Biota (Type):
Air Charcoal Cartridge		Se Radon Can	iistei C	1 Other:
			· · · · · · · · · · · · · · · · · · ·	
COMMENTS: (Cautions, e				<u> </u>
☐ Field Treatment: Pres	servatives added:	//lced/Frozen: _	Oth	er:
Field Measurement:	mR/hr	Radionuclio	de(s), if known:	
Rush/Priority (should be	preamanged and have supervisor	y appréval)		
ANALYSIS REQUESTED (For questions, please call 510-620)-2911)		
Gross Alpha	Gros	1	Gamma Sc	
☐ Total Uranium		l Beta (LSC)	NORM (Gai	
☐ Total Radium	•	ım (³ H)		ericium / Curium
☐ Radium-226	☐ Cart		□ Isotopic Plu	
Radium-228	☐ fodin	i t .	☐ Isotopic The	
Radon-222		ntium-89, 90	☐ Isotopic Ura	
Other (Specify);		el-63	☐ fron-55	
CHAIN OF CUSTODY				
1. 6/18/12	Jenny Snith			6/19/12
Date '	Nairle (Print) N.A.P.C	4 1		Date
Time Custody Received	Organization	Signature	My Company	Time Custody Released
Data V		_	()	Time Custody Neseased
Date	Name (Print)	4	- -	Date /
Time Custody Received	Organization	Signature		Time Custody Released
Date 6/20//2	Name (Printy A. TAN		7	
4.7.744	Thulbi D	Δ	0	Date
Time Custody Received	Organization	Signature	10 - 10	Time Custody Released
ABORATORY REMARKS	(Leave Blank)	SA SE LA HARA		
 Condition at Time of Rec 	eipt:	OIMR/HR >		
☐ Acceptable ☐ Holding Time Exceeds	U broken Container	D Leaked in 1		☐ Improper Container
보호하는 다른 하는 것은	- Garipis NUL COMING	Q Insufficient	sample .	
Preservatives/Carriers: Added While Sampling	g Added in Laboratory	☐ Not Added		D. Mark A. C.
	- internal or maintaining (1.5)		make the contract of the AM in a first of the	Not Applicable



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0212

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

Billing Agency: RHB

Sacramento

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

Phone Number: 714-850-4830

95814-5006

CA

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / June 2012

Samples Received by Lab: 6/20/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0212-01	Sample ID: R 92049 Sample Type: Seawater	Time Collected: 6/18/2012	10:52 Sampling Poin	: SONGS A
Tritium	EPA 906.0	-21,1 +/- 156	267	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SA	MPLE ANALYSIS (Ra	idiochemical)	
Sanitation and Radiation L	aboratories Branch		Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G Richmond, CA 94804	164	6/204		12-0212
510-620-2911	10-620-2930	Dáte & Tir	ne Sampled	Serial Number
L Attn. Sr	nuamalie Rubera	6/18/12	1052	R 92049
Collector Information	.)	/ Reporting Infon	mation	1 52045
Name: Jenny Smi		Name: Stew	re HSV	
Address: 2001 0 %	Tr) Plud Envuranmental S 1 H.U. Ave. Casta Ne	C (Address 5-	DPH-RHR	· _ · · ·
\$710 210	y the late.			
Telephone No.: > 1	<u>1 - 850 - 4830 </u>		ramento Co	~ 19849 1940
Sample Information System Name / Facility:		Billing Agency	11- 1	\ *
Sampling Point (s):	SONGS	D DWFOB()	RHB Q	RWQCB() DTSC
	\sim \sim	© DWTP8 © EMB	D Other (Spec	OWR DCDFG
System No.:	R		Carlor (Opec	
TYPE OF SAMPLE (Check a	ill applicable boxes)	<u>.</u>		
☐ Drinking Water ☐ Raw	Groundwater	Surface Water		3 Wastewater
	☐ Water Treatment Plant (\	WIP) U Distribution Sy	/stem - F	Point of Lice (BOLI)
Treated (circle title). Citic	Amated / Chloraminated / Chlonn	ie Dioxige / Ozonated / F	Peroxizone / Fluorio	dated / Coagulated / pH Adjusted
☐ Air Filterş	Date/Time	Seawater	. [Sludge (Semi-solid Samples)
Finishing:	<u></u>	Milk		Soil/Sediment
Starting:		Wipes		Biota (Type):
Net (M³)	· · · · · · · · · · · · · · · · · · ·	Radon Caniste		Other:
☐ Air Charcoal Cartridge				Other.
COMMENTS: (Co. II				
COMMENTS: (Cautions, etc. ☐ Field Treatment: Preser); <u>, it</u>		<u> </u>	The second secon
Preser	vatives added:	doed/Frozen:	Oth	er:
	mR/hr_		s), if known:	· (*
C Rush/Priority (should be pi	rearranged and have supervisory	approval)		
ANALYSIS REQUESTED (Fo	r questions, please call 510-620-	2911)		
Gross Alpha	☐. Gross	s Beta	☐ Gamma Scr	an .
☐ Total Uranium	☐ Total	Beta (LSC)	NORM (Gar	•
☐ Total Radium	⊅ ⊢Tritiur	ກ (³H) ້ີ້	,	ericium / Curium
Radium-226	☐ Carbo	on-14 🖁	☐ Isotopic Plui	
Radium-228	🔾 lodine	- 131 [†]	lsotopic The	
Radon-222	☐ Stront	tium-89, 90	☐ Isotopic Ura	
Other (Specify);	U Nickel	I-63	☐ Iron-55	
CHAIN OF CUSTODY	1	4		
1. (a/18/12 N	lame (Print)	- 50		10/19/12
OS2_	WAC.		() .	Date
Time Custody Received O	rganization	Signature	A CAN	Time Custody Released
	ame (Print)	_	<i>?</i>	
				Date
	rganization L	Signature		Time Custody Released
	ame (Print)	-		
13-10		- Angela	70	Date
	rganization	Signature	- (- (- (- (- (- (- (- (- (- (Time Custody Released
LABORATORY REMARKS (Le	eave Blank)			
A. Condition at Time of Receipt Acceptable	t: G Broken Container	~0.01 M		
O Holding Time Exceeded	Sample Not Cooled	Leaked in Trans Insufficient San	iit	☐ Improper Container
B. Preservatives/Carriers:				
Added While Sampling	Added in Laboratory	Q Not Added		Net Applicable
Leb 803 (11/07)	The second secon		<u> </u>	- iver skinksing



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0213

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610 Sacramento

CA 95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / June 2012

CA

System No:

Billing Agency: RHB

Samples Received by Lab: 6/20/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0213-01	Sample ID: R 92050 Sample Type: Seawater	Time Collected: 6/18/2012	11:10 Sampling Point:	SONGS B
K-40	EPA 901.1	348 +/- 21.6	81.9	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)							
Sanitation and Radiation	Laboratories Branch		Date Rece		Lab No. (Leave Blank)		
850 Marina Bay Parkway, G164							
Richmond, CA 94804 510-620-2911 510-620-2930			Date & Time S	amoled	12-0213 Serial Number		
Atto Shi	iyamalia Ruber	_	6/18/12	•	R 92050		
Collector Information	ACTION SOLETA		Reporting Informat	1110	R 92USU		
Name: Jenny Sm	(† *)	^ /	Name: Showe	Hon			
Dept./Branch: MPC A	which I was somet	nd Yearth	Dept./Branch: ((())	ロロ・もよび	· ·		
	Him Ave. Costa N	lesa .Ce	unguess FO Ro	K 49-744	4 MS 7660 L		
	-850-4830			いしんけいっこん	90×90 [
Sample Information	<u> 830 - 4030</u>		Billing Agency	10-440-	-7940		
System Name / Facility:	SONGS		. – – –	SI∕RHB □ RV	WQCB() DIDTSC		
Sampling Point (s):	00.000	F		FOB DO			
System No.:	B	Į.		Other (Specifi			
TYPE OF SAMPLE (Check :	•						
☐ Drinking Water ☐ Raw	☐ Groundwater ☐ Water Treatment Pla]] Sk (CITAN) teac	Surface Water		Wastewater		
	orinated / Chloraminated / Cl	anii (VVIII) 🎉 Marina Diaviii	in Commented (De	m u	Point of Use (POU) Ited / Coagulated / pH Adjusted		
	- Official invited / Ci	IIOIIIIE DIOX	te / Ozunated / Pero	xizone / Fluonda	ited / Coagulated / pH Adjusted		
☐ Air Filters	Date/Time	Î	Seawater		Sludge (Semi-solid Samples)		
Finishing:	 .		Milk		Soil/Sediment		
Starting:		E	∄ Wipes		Biota (Type):		
Net (M³)			Radon Canister		Other:		
☐ Air Charcoal Cartridge		_		-	Otilei.		
	<u> </u>						
COMMENTS: (Cautions, etc.	(i)						
☐ Field Treatment: Prese	rvatives added:		æd/Frozen:	Othe			
	mR/h		Radionuclide(s), it	f known:			
Rush/Priority (should be p	rearranged and have superv	risory approv	al)				
ANALYSIS REQUESTED (F	or questions, please call 510	620-2911	· · · · · · · · · · · · · · · · · · ·	<u>.</u>	· · · · · · · · · · · · · · · · · · ·		
Gross Alpha	•	Gross Beta	\	Y ~ ~			
☐ Total Uranium		Total Beta		Gamma Scar			
☐ Total Radium		rotai beta (‡ Tritium (³H)	•	NORM (Game			
Radium-226		Carbon-14		sotopic Amer			
☐ Radium-228		odine-131		Isotopic Pluto			
☐ Radon-222		Strontium-8		lsotopic Thori			
Other (Specify);		Vickel-63		Isotopic Urani	lum		
CHAIN OF CUSTODY		AICKGI-03		lron-55			
1. 6/18/12	Jenny Smith	*					
	Name (Print)		()		10 112- Data		
Time Custody Received	MBC		Larens	<u>k</u>			
)	Organization (S	gnature		Time Custody Released		
Date	Name (Print)		V		Date		
Time Custody Received	Organization	<u> </u>					
Line Clarity Received (Organization	S	ignature		Time Custody Released		
	Name (Print)		, .		Date		
Time Custody Received (Organization DWRIB	<u> </u>	Angola	Jan			
		S	ignature '		Time Custody Released		
ABORATORY REMARKS (L	.eave Blank)	ر د دار					
. Condition at Time of Receipt	pt: ☐ Broken Container	4	ONR/hr				
☐ Holding Time Exceeded	Sample Not Cools		the second section of the second section is	Y 45 보는 인	☐ Improper Container		
. Preservatives/Carriers:		各基金基					
Added While Sampling	Added in Laborato	ry - COO	Not Added		Cl Not Applicable		



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0214

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

Sacramento

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

CA Phone Number: 714-850-4830

95814-5006

Site/Project Name: San Onofre NPP / June 2012

Phone Number: 916-440-7955

System No:

Billing Agency: RHB

Samples Received by Lab: 6/20/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0214-01 R 92052 Sample ID: Time Collected: 6/18/2012 11:10 Sampling Point: SONGS B Sample Type: Seawater Tritium EPA 906.0 29.2 +/- 157 267 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

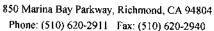
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLI	ANALYSIS (Radiochemical)	·
Sanitation and Radiation Laboratories Branch	Date Received	* Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	alzalid X	
Richmond, CA 94804 510-620-2911 510-620 - 2930	Date & Time Sampled	/2 - 02 / 4 Serial Number
Attn: Shiyamako Rubera	6/18/12 1110	R 92052
Collector information	Character 1 Comment	1 32032
Name: Jenni/Smith Dept./Branch: MEC Applied Environmental Sciences Address: 3000 Red Hui Are. Costa Mesa, Ca	Name: Steve to	
Dept./Branch: MRC Applied Environmental Sciences	Dept./Branch: ODIH - RHB	
92626 Red Hu Dre. Costa Mesa, Ca	Address: PO Box 99-7414	MS 7610
Telephone No.: 714 - 850 - 4830	Telephone No. Camento Ca	15899
Sample Information	Billing Agency	ICKIO
System Name / Facility: SONGS	D DWFOB() ∑Z(RHB □ RWO	ICB() DIDTSC
Sampling Point (s):	DWTPB OFDB DWR	□ CDFG
System No.:	DOTHER OTHER (Specify)	
TYPE OF SAMPLE (Check all applicable boxes)		· · · · · · · · · · · · · · · · · · ·
☐ Drinking Water ☐ Groundwater	Surface Water	
☐ Raw ☐ Water Treatment Plant (WTP)	🔛 Distribution System 🗀 Pr	astewater pint of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dio	vide / Ozonated / Peroxizone / Fluoridated	1 / Coagulated / pH Adjusted
	ie o	
Date/Time	<u>- </u>	udge (Semi-solid Samples)
Finishing:	Milk 🗆 Sc	oil/Sediment
	Wipes 🔾 Bi	ota (Type):
Net (M³)	Radon Canister 🔲 Ot	her:
☐ Air Charcoal Cartridge		· · · · · · · · · · · · · · · · · · ·
COMMENTS: (Cautions, etc.):	A CONTRACTOR	
☐ Field Treatment: Preservatives added:	ced/Frozen: Other:	na katalan da an ya wasa sa sa
☐ Field Measurement:mR/hr		
Rush/Priority (should be prearranged and have supervisory appr	Radionuclide(s), if known:	· · · · · · · · · · · · · · · · · · ·
ANALYSIS REQUESTED (For questions, please call 510-520-2911)	4	
☐ Gross Alpha ☐ Gross Beta	<u> </u>	•
☐ Total Uranium ☐ Total Beta)
☐ Total Radium Tritium (³H)	☐ tsotopic Americi	um / Curium
☐ Radium-226 ☐ Carbon-14	🔭 🕝 Isotopic Plutoniu	ım ·
□ Radium-228 □ lodine-131		1
☐ Radon-222 ☐ Strontium-8	🗓, 90 📋 🔲 Isotopic Uranium	1
Other (Specify); Nickel-63	}	
CHAIN OF CUSTODY		· · · · · · · · · · · · · · · · · · ·
1. 6 18 12 Penny Smith		6/19/12
MAC MAC	(a) (a)	Date
Time Custody Received Organization	Signature	Time Custody Released
2. Date Name (Print)		
	∴ E	Date
Time Custody Received Organization	Signature	Time Custody Released
Date 6/20//2 Name (Print)		
- DUPLE	Anada Ta	Date
Time Custody Received Organization	Signature July 1919	Time Custody Released
ABORATORY REMARKS (Leave Blank)		
condition at Time of Receipt:		
☐ Acceptable ☐ Broken Container ☐ Holding Time Exceeded ☐ Sample Not Cooled	Leaked in Transit	Improper Container
그는 근처를 바고 발생하고 있다. 그렇게 그렇게 다 먹었는데 하는 그 누워 결심하다고 다.	Insufficient Sample	
Preservatives/Cerriers: Added While Sampling	And Addison	
	Not Added	Not Applicable
ab 803 (11/07) •		



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0215

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

92626

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

Sacramento

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / June 2012

CA

Billing Agency: RHB

Samples Received by Lab: 6/20/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0215-01 Sample ID: R 92060 Time Collected: 6/18/2012 11:01 Sampling Point: SONGS C Sample Type: Seawater K-40 EPA 901.1 400 +/- 21.9 81.7 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	6/28/12	12-0215
Richmond, CA 94804 510-620-2930	Date & Time Sampled	Serial Number
Attn Stryamalio Rubera	6/18/12 1101	R 92060
Collector Information	Reporting Information	
Name: Jenny Smith	Name: Steve HSU	
	RMEDIJOIZHIGH. / Y'X'X'YYY O'S CZS	
Address: 3000 Rod Hul At Costo Mosa Ca	12 CX 49-74	4 MS 700
Telephone No.: 14 7850 - 4830	elephone No.	13840
Sample information	Billing Agency	7 (70
System Name / Facility: SoNS S		WQCB() DTSC
		WR DCDFG
System No.:	_ 0.1.0. (0.000.	77
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	Surface Water	Wastewater
- Water treatment lane(11.11)	Distribution System	Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chlorinated / Chlorina Diox	de / Ozonated / Peroxizone / Fluorid	ated / Coagulated / pH Adjusted
D Air Filters Date/Time	Seawater 🗆	Sludge (Semi-solid Samples)
Finishing:	- X	Soil/Sediment
Starting:	☑ Wipes 🚊 🖸	Biota (Type):
Net (M³)		Other:
☐ Air Charcoal Cartridge		
COMMENTS: (Cautions etc.):		
COMMENTS: (Cautions, etc.): Field Treatment: Preservatives added:		a ang arawa an arawa asa sa s
The second secon	ced/Frozen:Othe	or:
☐ Field Measurement:mR/hr	Radionuclide(s), if known:	
	rai)	
ANALYSIS REQUESTED (For questions, please call 510-620-2911		· · · · · · · · · · · · · · · · · · ·
☐ Gross Alpha ☐ Gross Beta	<u></u>	n <i>-</i>
☐ Total Uranium ☐ Total Beta	.SC) ✓ □ NORM (Gam	ima)
Total Radium	Isotopic Ame	ricium / Curium
Radium-226 Carbon-14	☐ Isotopic Plute	
☐ Radium-228 ☐ lodine-131 ☐ Strontium 80	☐ Isotopic Thor	
		ium
Other (Specify); Nickel-63	☐ fron-55	•
CHAIN OF CUSTODY		. 1 . 1
Date (Print)		Date 19 12
101 MBC	(Spring)	
2.	3	Time Custody Released
Date Name (Print)		Date
Time Custody Received Organization	**************************************	_
3 Z/20/12 A TAN	Signature	Time Custody Released
Date Name (Print)		Date
Time Custody Received Organization	signature sela Tax	Time Custody Released
LABORATORY REMARKS (I eave Blank)		I THE CHANGE I VARIABLE
A. Condition at Time of Receipt: 40-0/[4]	Ym.	
☐ Acceptable ☐ Broken Container ☐	Leaked in Transit	Improper Container
그리는 일반이 그 하는 그리고 이익을 들어 있는 것 같아 그는 그는 그들은 사랑 경향 보기를 가득하다는 때 사람이 걸렸	I Insufficient Sample	
B. Preservatives/Cerriers: ☐ Added While Sampling ☐ Added in Laboratory	Not Added	
Leb 803 (11/07)	TRUE PURCES	O Not Applicable
	· ·	.,,



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0216

Collector:

Jenny Smith

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Science, 300 Costa Mesa

CDPH - RHB, 1500 Capitol Av., MS 7610

95814-5006

CA 92626 Sacramento

CA

Phone Number: 714-850-4830

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / June 2012

Billing Agency: RHB

Samples Received by Lab: 6/20/2012

Parameter Method Result +/- CE MDA₉₅ Units Lab No: 12-0216-01 R 92061 Sample ID: Time Collected: 6/18/2012 11:01 Sampling Point: SONGS C Sample Type: Seawater Tritium EPA 906.0 -102 +/- 154 267 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SA	MPLE ANALYSIS (Radiochemical)	
Sanitation and Radiatio 850 Marina Bay Parkway	n Laboratories Branch		e Received	Lab No. (Leave Blank)
Dishmond CA 04004	•	6/24	Mus	12-0-116
510-620-2911	510-620-2930 -	Dete &	Time Sampled	Serial Number
Attn	Snijamalu Kolberaz			L R 92061
Name: Jenny Syni	+12	Reporting Inf	ormation	
Dept./Branch: MSC	Blind Emple womental San	Name: Short /Branch:	ie Hen	
Address: 3000 12	phod Environmental Sce a Huy Ave. Costa Mes	Address:	SDP1-RHB	in a long with the
10- 6			CACAMANAN	114 MS 7610
Telephone No.:	1-8-50-40-50	Telephone No Billing Agenc	s, of nemposis	774
System Name / Facility:	SONGS	D DWFOB (RWQCB() DTSC
Sampling Point (s):	3003	DWTPB		DWR DISC
System No.:		₫ □ EMB	Other (Spec	sify)
TYPE OF SAMPLE (Chec	k all applicable boxes)	4	" , 	
☐ Drinking Water	☐	Surface Wa	oter [T Microson
L Raw ∖	Water Treatment Plant (*)	WTP) 🔲 Distribution	System	Wastewater Pour
☐ Treated (circle one): C	hlorinated / Chloraminated / Chlorin	ne Dioxide / Ozonated	/ Peroxizone / Flüoria	dated / Coagulated / pH Adjusted
Air Filters	Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:		Milk		3 Soil/Sediment
Starting:		₽ Wipes		Biota (Type):
Net (M ³)		Radon Cani		Other:
Air Charcoal Cartridge	-			Other.
COMMENTS: (Cautions, e	4- \			· · · · · · · · · · · · · · · · · · ·
Field Treatment: Pre		1		Company of the same of the sam
		ced/Frozen:	Oth	ier:
	mR/hrmrearranged and have supervisory	Hadionuclid	e(s), if known:	
"			···.	
	For questions, please call 510-620-	*	·	
] Gross Alpha] Total Uranium	☐ Gros	. 6 .	Gamma Sca	an
Total Radium		Beta (CSC)	☐ NORM (Gar	•
Redium-226	Tritiu	' 196		ericiųm / Curium
Radium-228	Carbo		Sotopic Plu	
Radon-222	☐ lodine ☐ Stron	e-131 itium- <u>89,</u> 90	☐ Isotopic The	
Other (Specify);	Dicke	Confession .	☐ Isotopic Ura	nium`
HAIN OF CUSTODY	G Nicke	#03	☐ Iron-55	<u> </u>
<u> -6/18/12-</u>	- Jenny Smith			Lholia
Date	Name (Print)	T # (1)		Date
Time Custody Received	Organization	- Signature	ALLEN	- 1700 -
Date		Same	<i>Y)</i> =	Time Custody Released
Date	Name (Print)			Date
Time Custody Received	Organization	Signature	<u></u>	Time Custody Released
Date DO 17	Name (Print)	- 45		ser.e.
	TNWRIR	- LAM	At Town	Date
Time Custody Received	Organization	Signature	· · · · · ·	Time Custody Released
BORATORY REMARKS	(Leave Blank)			
Condition at Time of Rec	elpt: Land and the property of Archive	OI MIN/	<i>计图</i> 编数据	
 Acceptable Holding Time Exceed 	D Broken Container Sample Not Cooled	U Leaked in Tr	ansit	Improper Container
Preservatives/Carriers:	Aminka take Arbied	☐ Insufficient S	entible	
☐ Added White Samplin	Added in Laboratory	□ Not Added		1일 사람이 가지 하다면 되다



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0217

Collector:

Robert Moore

Phone Number:

MBC

Requestor: Roger Lupo

RHB

CDPH - RHB, 1500 Capitol Av., MS 7610

Sacramento

CA

95814-5006

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / June 2012

CA

System No:

Billing Agency: RHB

Samples Received by Lab: 6/20/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0217-01	Sample ID: R 92062 Sample Type: Seawater	Time Collected: 6/18/2012	12:45 Sampling Point	: SONGS D
K-40	EPA 901.1	363 +/- 18.1	61.1	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

		OR SAMPLE	ANALYSIS (Rad		
Sanitation and Radiation			Date Re	konved.	Lab No. (Leave Blank)
850 Marina Bay Parkway,			6/20/10		12-03/1
Richmond, CA 94804 510-620-2911	10-1620-2930	> 1	Date & Time		Serial Number
Attn Sr	nyamalia Rob	21a - 17	"18/12	1245	R 92062
Collector Information Name:	Robert Moore		Reporting Inform		
Dept./Branch: MKC A	Plud Environmen	1-01 >C.E.O.DW	Llept./Branch: 🦯 🗸	Daily Branco	
Induiese Zino Ktoli	thu Ave Costo	Mica Come	Theresa I O	50× 491±77	114 MC 3010
Telephone No.:	1-850-4830		felenhone M	commento,	2 115899
Sample Information	** - 020 - HV 40		Billing Agency	916 -440	7990
System Name / Facility:	CONGS		DWFOB()	RHB OF	RWQCB() DIDTSC
Sampling Point (s):			🕽 DWTPB 🕺	CO FDB 🔾 I	DWR ☐ CDFG
System No.:	\mathcal{L}][□ EMB	Other (Spec	oify)
TYPE OF SAMPLE (Check	k ali anniicable boyes)		r		
☐ Drinking Water	☐ Groundwater	1	Surface Water	· :	☐ Wastewater
Raw	Water Treatmen			stem	Point of Use (POU)
Treated (circle one): Cl	hlorinated / Chloraminated	/ Chlorine Diox	de / Ozonated / P	eroxizone / Fluori	dated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	,)	1 Seawater		☐ Sludge (Semi-solid Samples)
Finishing:			Milk	!	☐ Soil/Sediment
Starting:	 		Wipes	!	☐ Biota (Type):
Net (M³)		— , ₁	Radon Caniste		☐ Other:
☐ Air Charcoal Cartridge		# # P		,	
				· · ·	
COMMENTS: (Cautions, e				· · · · · · · · · · · · · · · · · · ·	<u> </u>
☐ Field Treatment: Pres			ced/Frozen:		her:
Tield Measurement:			W	s), if known:	·
Rush/Priority (should be	e prearranged and have sur	pervisory appro	ial)		
ANALYSIS REQUESTED	(For questions, please call	510-620-2911)			
☐ Gross Alpha		Gross Beta	<u>.</u>	Gamma Se	can
☐ Total Uranium	I	🔾 Total Beta (NORM (Ga	amma)
☐ Total Radium	l	☐ Tritium (³ H)		Isotopic Ar	mericium / Curium
☐ Radium-226		🚨 Carbon-14 🖟		🔲 Isotopic Pl	
Radium-228		🚨 lodine-131 🖟		Isotopic Tr	norium
☐ Radon-222	.]	Strontium-8		Isotopic Ur	anium
Other (Specify);	<u></u>	☐ Nickel-63 😭		☐ Iron-55	
CHAIN OF CUSTODY	21 11		2		. 1 . 1
1. <u>C / 18 / n</u>	Name (Print)	<u></u>	- 0 11	,	(o 1 & 12
245	Organization		- Columbial		1430
Time Custody Received		/1	Signature)		Time Custody Released
2. Date 18/17-	Name (Print)	Was to be the second	1		Date 11412
1430	N13c	2 2	John	$\Delta U d$	1700
3. CLOOLIA	Organization	····	Signature		Time Custody Released
Date (20/12	Name (Print)	<u></u>			-Date
= 12:10	DWRIB		- Angela	70-	<u>. </u>
Time Custody Received	Organization		Signature 0	(Time Custody Released
LABORATORY REMARKS			J 44 A 44 A		
A. Condition at Time of Re-	ceipt: Broken Conta	einer -	∠o-oj MR/ □ Leaked in Tran	D.	Improper Container
O Holding Time Exceed	ded Sample Not (Insufficient Sar		- Indicate Contained
B. Preservatives/Carriers:					
Q Added White Sampli	ng 🔲 Added in Lab	oratory	Not Added		□ Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0218

Collector:

Robert Moore

MBC

CA

Requestor: Roger Lupo

RHB

CDPH - RHB, 1500 Capitol Av., MS 7610

Sacramento

CA

95814-5006

Phone Number: 916-440-7955

Phone Number:

System No:

Site/Project Name: San Onofre NPP / June 2012

Billing Agency: RHB

Samples Received by Lab: 6/20/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0218-01	Sample ID: R 92063 Sample Type: Seawater	Time Collected: 6/18/2012	12:45 Sampling Point	SONGS D
Tritium	EPA 906.0	-95.6 +/- 154	267	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22. the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	EANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	6/20/12 /2-02/8
Richmond, CA 94884 510-620-2930	Date & Time Sampled Serial Number
Attr Shyamalia Rollera	146/11/42 1245 R 92063
Collector Information\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Reporting Information
Name: Kills ent Mydlese	Name: Steve HSV
Dept./Branch: MBC Applied Environmental Science Address: 3000 Ped H.U. Ave Costa Weight	Dept./Branch: CDPH-RHB
27626 Red Hill Are Costa Meson	PO BOX 10-7414 MZ 1610
Telephone No. 14 - 830 - 4830	relephone No.
Sample Information #	Billing Agency
System Name / Facility: SONGS	DWFOB() CRHB CRWQCB() CDTSC
	DWTPB DB DWR CDFG DEMB DOther (Specify)
System No.:	Other (opecity)
TYPE OF SAMPLE (Check all applicable boxes)	
Drinking Water Groundwater	Surface Water
Raw Water Treatment Plant (WTF	
Treated (circle one): Chlorinated / Chloraminated / Chlorine D	oxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters, Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	☐ Milk ☐ Soil/Sediment
Starting:	Wipes Biota (Type):
Net (M³)	Radon Canister
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	lead/Frozen: Other:
☐ Field Measurement:mR/hr	Radionuclide(s), if known:
 Rush/Priority (should be prearranged and have supervisory app 	pro(al)
ANALYSIS REQUESTED (For questions, please call 510-620-291	1)
☐ Gross Alpha ☐ Gross Be	ta Gamma Scan
☐ Total Uranium ☐ Total Bet	a (RSC)
☐ Total Radium ☐ Tritium (3	
☐ Radium-226 ☐ Carbon-1	4 Isotopic Plutonium
☐ Radium-228 ☐ Iodine-13	1 sotopic Thorium
☐ Radon-222 ☐ Strontium	⊢8∳∉90 ☐ Isotopic Uranium
Other (Specify); Dickel-63	☐ Iron-55
CHAIN OF PUSTODY	6
Date Name (Print)	6/18/12
Date Name (Print)	Kale # 1430
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	to 110 112
1420 MPV	Date 1700
Time Custody Received Organization	Signatule Time Custody Released
Date 6/20/12 / Name (Print) A TAN	
DURIR "	Angel
Time Custody Received Organization	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank)	
A., Condition at Time of Receipt:	
→ D Acceptable □ Broken Container □ Rolding Time Exceeded □ Sample Not Cooled	D Leaked in Transit D Improper Container
3. Preservatives/Carriers:	Leaked in transit I Improper Containess II Insufficient Sampler Ut Not Added II Not Added
- No. 11 - 12 - 12 - 12 - 12 - 12 - 12 - 12	an COMMING にんさい かいしょう 大きさんださい 子女性性 (語) しょしょうしょう ちゅうしゃしょうさい ちょうだま チェッド・ドライカ たんご 【



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0127

Collector:

Wayne Dossett

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Sciences, 30 Costa Mesa

1500 Capitol Avenue, MS 7610 Sacramento

ÇA 95814-5006

Phone Number: 916-440-7940

Site/Project Name: San Onofre NPP / May 2012

Phone Number: 714-850-4830

CA

System No:

Billing Agency:

Samples Received by Lab: 5/17/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0127-01	Sample ID: R 92000 Sample Type: Seawater	Time Collected: 5/15/2012	10:52 Sampling Point	: SONGS A
K-40	EPA 901.1	357 +/- 17.6	58.7	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804 510 -620 - 29 20	5/17/12	12 - 0127 12 - 0124
1545 620 2044 3.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Date & Time Sampled	Serial Number ,
Atth Snigarrate Rubera	5/15/12 1052	R 92000
Coffector Information	Reporting Information	. 4
Name: Wrughe Dossett	Name: State Hou	
Dept./Branch: MBC Applied Environmental Scene Address: 3000 Red Hill Ave Costa Mesa, Ca	Address: PARX CC. 7X14	ms Thata
72U2U Telephone No.: 44 - 850 4830	Secramento ca	95899
Sample Information	Telephone No.: Alla 140	1940
System Name / Facility: SONGS	Bifling Agency □ DWFOB() 1 RHB □ RV	1000 () 51 ptoo
Sampling Point (s):	O DWTPB O FDB O DV	
System No.:	☐ EMB ☐ Other (Specification of the Company of the	
TYPE OF SAMPLE (Check all applicable boxes)		
	Surface Water	Wastewater
☐ Raw ☐ Water Treatment Plant (WTP)	Distribution System	Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine Dio	ide / Ozonated / Peroxizone / Fluorida	ited / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater 🔲	Sludge (Semi-solid Samples)
Finishing:	₩	Soil/Sediment
- Starting:	<u> </u>	Biota (Type):
Net (M³)		Other:
☐ Air Charcoal Cartridge		Othor
		·
COMMENTS: (Cautions, etc.):		And the second s
	loed/Frozen:Othe	
	Radionuclide(s), if known:	
C Rush/Priority (should be preamanged and have supervisory appro	21.	· · · · · · · · · · · · · · · · · · ·
ANALYSIS REQUESTED (For questions, please call 510-620-2911)		
Gross Alpha Gross Beta		
☐ Total Uranium ☐ Total Beta	j.	• •
☐ Total Radium ☐ Tritium (³H)	Į.	
☐ Radium-226 ☐ Carbon-14 ☐ Radium-228 ☐ Iodine-131	3 .	
☐ Radon-222 ☐ Strontium-1	a reoropic mor	
Other (Specify); D Nickel-63	999 🗀 Isotopic Uran	ium
CHAIN OF CUSTODY	\ 3 01-35 \	
1. 5/15/12 Wayne Bossett		5/15/12
Date Name (Print)	1 1 1 1 1 MITH	Date
Time Custody Received Organization	Signature / Capabo	Time Custody Released
		16 16 m 12
Date Name (Print)	214/1	Date
Time Custody Received Organization	Signature	Time Custody Released
Date 5/17/12 Name (Print)		
1330 \ DLVRID	_ mails To	Date
Time Custody Received Organization	Signature 7	Time Custody Released
ABORATORY REMARKS (Leave Blank)	N. M.	
Condition at Time of Receipt: D Broken Container	Co-of MMAy Loaked in Transit	B
☐ Holding Time Edgeded ☐ Sample Not Cooled	Leaked in Transit Insufficient Sample	D Improper Container
3. Preservatives/Cardela.		
Q Added While Section Q Added in Laboratory	3 Not Absect	☐ ⁷ Not Applicable 2



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0239

Collector:

Jenny Macartney

SLO County Environmenta

Requestor: Roger Lupo

RHB

2156 Sierra Way

93406

CDPH - RHB, 1500 Capitol Av., MS 7610

San Luis Obispo CA

Sacramento

CA 95814-5006

Phone Number: 805-781-5554

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / May 2012

Billing Agency: RHB

Samples Received by Lab: 5/17/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0239-01	Sample ID: R 92002 Sample Type: Seawater	Time Collected: 5/15/2012	10:52 Sampling Poi	πt: SONGS A
Tritium	EPA 906,0	-89.6 +/- 154	267	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

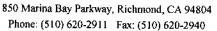
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST F	OR SAMPLE AN	ALYSIS (Radioc	hemical)	And the second
Sanitation and Radiation Laboratories Branch	* * * * * * * * * * * * * * * * * * * *	Date Recei		Lab No (Leave Blank)
850 Marina Bay Parkway, G164		5/17/10		12-0239
Richmond, CA 94804 510-620-2911 510-620-2911	<u> </u>	Date & Time Sa	ampled	Serial Number
Ath Shiyamalio Re		5/15/12 /	•	R 92002
Collector Information	AP.	porting information	<u> </u>	K "92002
Name: Wayne Dossett Dept./Branch: Was Applied Enturant Address: 200 Ped Hill Ave Cost Telephone No. 200	Na	ime: Steve His		
Dept./Branch: MSC ADDICA FRANCE	De John Litiz	ept./Branch: 🗥 🖂	44-8442	· · · · · · · · · · · · · · · · · · ·
Address: 3000 PPA HILL AVC COSTO	Mc Com	dress: PO Pxx	19-74	4 ms 7610
Telephone No. 7850 - 483()		dress: D	romin of the	45390
Sample Information	240	lephone No.: 9	16-440-	7080
System Name / Facility: Sounds Sempling Reject (c):			Your Gen	
Sampling Point (s):			K [®] RHB □ RV FDB □ DV	VQCB() DIDTSC VR DICDFG
A	1 14.0		Other (Specify	
System No.:			- omo (opoon)	/ <u></u>
TYPE OF SAMPLE (Check all applicable boxes)				
Drinking Water Groundwater		Surface Water	.	Wastewater
☐ Raw ☐ Water Treatmen	t Plant (WTP)	Distribution System	n 🛄	Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated	/ Chlorine Dioxide	/ Ozonated / Perox	(izone / Fluorida	ted / Coagulated / pH Adjusted
☐ Air Filters Date/Time	5 1/	Seawater	П	Sludge (Semi-solid Samples)
Finishing:		Milk		Soil/Sediment
Starting:	N.		· .	
Net (M³)	# <u>3</u>	Wipes		Biota (Type):
· · · · · · · · · · · · · · · · · · ·	الوا	Radon Canister	ū	Other:
Air Charcoal Cartridge	\$5			
COMMENTS: (Cautions, etc.):	E	4		
Field Treatment: Preservatives added:	-	l/Frozen:	Other	
Rush/Priority (should be prearranged and have su		Kacioniuciide(s), ir	KNOWN:	
		'		
ANALYSIS REQUESTED (For questions, please call	510-620-2911)			
_	☐ Gross Beta		Gamma Scar	
☐ Total Uranium	☐ Total Beta (LSC	\$) 🛷 🗆	NORM (Gami	ma)
3 Total Radium	Tritium (3H)		Isotopic Amer	-
Radium-226	🔲 Carbon-14 🕯 🕆		Isotopic Pluto	
Radium-228	☑ lodine-131		Isotopic Thori	
3 5 1 222	Strontium-89, 9	0 =	Isotopic Urani	
Other (Specify);	Nickel-63	and the second s	ron-55	
CHAIN OF CUSTODY		<u> </u>	- 1011-00	
5/15/12 Waine No	CCH	14.79 B		5/15/12
Date Name (Print)		11/2	DIMI	Date
Time Custody Received Organization	-	ach of	abolt	. 400
15 May 12 2		nature	en e	Ime Custody Released
Date Name (Print)			4 4	Date
Time Custody Received Organization	Control of the Contro	Kalent he		1400
Time Custody Received Organization	Sign	fature		Time Custody Released
Date Name (Print)				Date
THE CHARLES		Ancela -	[6,	Date
Time Custody Received Organization	Sign	ature		Time Custody Released
ABORATORY REMARKS (Leave Blank)		2	Antiques of	
Condition at Time of Receipt:	1	<0.01MR	hr	
G Acceptable G Broken Conta		Leaked in Transit Insufficient Sample		Improper Container
Preservatives/Carriers:		тэлисын жанірів		
Added While Sampling	vatory 🗀	Not Added		
	조 미미 국(주) (10 : 10 : 10 : 및 (전투) (10 : 1	THE PROPERTY OF	ほわ ひとろんり こちょうかい	☐ Not Applicable



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0131

Collector:

Wayne Dossett

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Sciences, 30

92626

1500 Capitol Avenue, MS 7610

Costa Mesa

CA

Sacramento

95814-5006

Phone Number: 714-850-4830

CA

Phone Number: 916-440-7940

System No:

Site/Project Name: San Onofre NPP / May 2012

Billing Agency: RHB

Samples Received by Lab: 5/17/2012

Parameter	Method	Result +/- CE	MDA 95 Units	
Lab No: 12-0131-01	Sample ID: R 92004 Sample Type: Seawater	Time Collected: 5/15/2012 1	1:05 Sampling Point;	SONGS B
K-40	EPA 901.1	340 +/- 21.0	79.2	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

September Sept		ANALYSIS (Radiochemical)
Richmond, CA 94804 50-620-20130 Ahn Shu yarrular Ruborra Reporting information Name: Unity of Description Reporting information Name: Unity of Reporting informat	Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
Dute of Time Samples R 92304 Reporting Information R 92304	850 Marina Bay Parkway, G164	
Collector Information Name: Jay per Dept/Branch per Dept	Fig. 620 2014 50 - 620 - 2036	
Collector Information Reporting Information Repo		
Name:	Collector Information	Reporting Information
Dept/Branch: MSE Applied Environment According Dept. MSE Applied Environment According Dept. MSE Applied Dept. MS	Name: Jayne Tox SP #4	Mame: Stelle Hall
Air Filters Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Distribution System Distribution System Date/Distribution S	Dept. Branch: MRC Applied For a supposed and Source	Dept./Branch: CDDH RILE \$
Sample Information		# PO Pov (10 - 7414 YM 3 7615)
Sample Information System Name Facility System Name Facility Sampling Point (e): DWPP FDB DWVR CDFG DWVR	POLICE TO THE PROPERTY OF THE POLICE TO THE	Scieramento Co. 15299
System Name Facility System Name Facility System Name Facility System Name Facility System Sy	Sample Information	Rilling Agency
System, Mr. DWTPB FDB DWR CDFG	System Name / Facility	
Systempton: Type OF SAMPLE (Check all applicable boxes)	Sampling Point (s):	D DWTPB D FDB D DWR D CDFG
Groundwater Groundwater Water Treatment Plant (WTP) Distriction System Point of Use (POU)		Other (Specify)
Raw Water Treatment Plant (WTP) Distribution System Point of Use (POU)		
Treated (circle one): Chlorinated / Chloraminated / Chloramin	☐ Drinking Water , ☐ Groundwater ☐ Water Treatment Plant (WTP)	
Finishing: Starting: Net (M*) Air Charcoal Cartridge COMMENTS: (Cautions, etc.): Field Treatment: Preservatives added: Field Treatment: Preservatives added: Field Measurement: Rush/Priority (should be prearranged and have supérvisory approfat) ANALYSIS REQUESTED (For questions, please calis 510-620-2911) ANALYSIS REQUESTED (For questions, please calis 510-620-2911) ANALYSIS REQUESTED (For questions, please calis 510-620-2911) Total Uranium Total Uranium Total Uranium Total Uranium Total Radium Total Uranium Total Radium-228 Carbon-14 Storopic Plutonium		
Finishing: Starting: Net (M*) Air Chercoal Cartridge COMMENTS: (Cautions, etc.) Field Treatment: Preservatives added: Field Measurement: Field Me	☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Starting: Net (M*) Radon Canister Other: Air Chercoal Cartridge	Finishing:	▲ 7
Red on Canister	Starting:	
Air Chercoal Cartridge COMMENTS: (Cautions, etc.): Field Treatment: Preservatives added:	Net (M³)	
Field Treatment: Preservatives added:	Air Charcoal Cartridge	Total danieter G Oaler.
Field Treatment: Preservatives added: Red/Frozen: Other: Other:	COMMENTS: (Cautions atc.):	
Field Measurement:		
Rush/Priority (should be prearranged and have supervisory approval) ANALYSIS REQUESTED (For questions, please call, 510-620-2911) Gross Alpha Total Uranium Total Pata (ISC) NORM (Gamma) Total Radium-226 Radium-226 Radium-228 I lodine-131 Strontium-38, 90 I sotopic Plutonium Other (Specify): Nickel-63 CHAIN OF CUSTODY Name (Print) Name (Print) Time Custody Received Organization Time Custody Received Organization Name (Print)		
ANALYSIS REQUESTED (For questions, please call, 510-620-2911) Gross Alpha Gross Beta Total Uranium Total Beta (ISC) NORM (Gamma) I sotopic Americium / Curium Radium-226 Radium-228 Radium-228 Radium-229 Other (Specify): Other (Specify): Date Name (Print) Time Custody Received Organization Name (Print) Time Custody Received Organization Name (Print) Name (Pri		Radionuclide(s), if known:
Gross Alpha Gross Beta Total Uranium Gross Beta Total Uranium Gross Beta Gross Beta Total Gross Beta Gross	Carried the restriction of the presentanged and have supervisory approximately approxi	ogal)
Total Uranium Total Reta (ISC) NORM (Gamma) Total Radium Total Radium Total Radium Total Radium Radium-226 Carbon-14 Isotopic Americium / Curium Isotopic Plutonium Isotopic Plutonium Isotopic Thorium Isotopic Thorium Isotopic Uranium Other (Specify): Nickel-63 Iron-55 CHAIN OF CUSTODY Mame (Print) Time Custody Received Organization Name (Print) Time Custody Received Organization Time Custody Received Organization Name (Print) Name (Print) Time Custody Received Organization Name (Print) Date Time Custody Received Organization Time Custody Received Organization Name (Print) Date Time Custody Released Leaked in Transit Improper Container Improper Container Improper Container Improper Container Improper Container	ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
Total Cranium Total Radium Total Radium Total Radium Stratium Stra	☐ Gross Alpha ☐ Gross Beta	₩ Gamma Scan
Total Radium Tritium (*H) Isotopic Americium / Curium Radium-228 Carbon-14 Isotopic Plutonium Isotopic Plutonium Isotopic Plutonium Isotopic Plutonium Isotopic Uranium Isotopic Uraniu	☐ Total Üranium ☐ Total Beta	
Radium-228 Isotopic Plutonium Isotopic Plutonium Isotopic Thorium Isotopic Thorium Isotopic Thorium Isotopic Uranium Isotopic Uraniu	☐ Total Radium ☐ Tritium (³H	- 18
Radium-228	☐ Radium-226 ☐ Carbon-14	
Radon-222		
Other (Specify);		- Company of the Comp
CHAIN OF CUSTODY Date	_	*
Date Date D		
Time Custody Receives Organization Name (Print) Date Name (Print) Date Name (Print) Time Custody Received Organization Name (Print) Date Time Custody Released ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Date Date Time Custody Released Date Time Custody Released Time Custody Released ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Date Time Custody Released Insufficient Sample Improper Container Date Improper Container Date Insufficient Sample	1. 5/15/17 Wayne Dossett	\$ 5/15/12
Date Name (Print) Date Name (Print) Date	Date Name (Print)	
Date Name (Print) Date Name (Print) Date	Time Custody Received Organization	1400 1400
Time Custody Received Organization Signature Time Custody Released Name (Print) Date Time Custody Received Organization Name (Print) Date Time Custody Received Organization Time Custody Received Organization Time Custody Released ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Acceptable Holding Time Exceleded Broken Container Date Time Custody Released	2. 15May D Poper Tillogge	The state of the s
Time Custody Received Organization Signature Date	Date Name (Print)	Date Date
Date Date D		
Time Custody Received Organization ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Acceptable Holding Time Exceeded Broken Container Insufficient Sample Preservatives/Carriers	3. 51.71/2 A TAK	Time Custody Released
Time Custody Received Organization Signature Time Custody Released ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Acceptable Holding Time Exceeded Sample Not Cooled Insufficient Sample Preservatives/Carriers		Date
ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Acceptable Holding Time Exceeded Sample Not Cooled Insufficient Sample Preservatives/Carriers	Time Custody Received Organization	- mook Town
Condition at Time of Receipt: Acceptable Broken Container Leaked in Transit Holding Time Exceeded Sample Not Cooled Insufficient Sample Preservatives/Cerriers		
☐ Holding Time Exceeded ☐ Sample Not Cooled ☐ Insufficient Sample Preservatives/Carriers:	Condition at Time of Receipt:	SOID MEY WAS TO THE STATE OF TH
Preservatives/Carriers	Acceptable Broken Container	☐ Leaked in Transit ☐ Improper Container ☐ Insufficient Sample



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0132

Collector:

Wayne Dossett

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Sciences, 30 Costa Mesa

CA 92626 CDPH - RHB, 1500 Capitol Av., MS 7610 Sacramento

CA 95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / May 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 5/17/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0132-01 R 92006 Sample ID: Time Collected: 5/15/2012 11:05 Sampling Point: SONGS B Sample Type: Seawater Tritium EPA 906.0 -164 +/- 152 267 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR	SAMPLE			<u> </u>
Sanitation and Radiation			Date Rec	zelved	Lab No. (Leave Blank)
850 Marina Bay Parkway,	G164		5/17	12	12-0132
510-620-2911	0-620-2930	*	Date & Time		Serial Number
Attn 3	nigamalia Ruber	~	5/15/12	1105	R 92006
Collector Information		R	Reporting Informa	ation	
Name: Wayne Do	SSC 44	N	lame: Steve	HSU:	•
Dept./Branch: M8C A	osse 44 opplied Environment that Are costally	trd Sand	ept./Branch: $\subset \wp$	BH-BHB	
126 21	that Are costa Mi	an a	iddress. Du Po	X JU- KK	i we Join
Telephone No.:	-850 -483 6		elephone No:	116 - 440 -	7020
Sample Information			Hilling Agency		
System Name / Facility: Sampling Point (s):	SOMG S-	<u> </u>	DWFOB()	©XRHB □ F	WQCB() DTSC
Samping Folia (s).		# <u>.</u>) DWTPB (WR / DICDFG
System No.:	5		j EMD	Other (Speci	·
TYPE OF SAMPLE (Check	(all applicable boxes)	· · · · · · · · · · · · · · · · · · ·			
 Drinking Water 	☐ Groundwater	ð	Surface Water) Wastewater
□ Raw ,	Water Treatment Plan				Point of Use (POU)
Treated (circle one): Cl	niorinated / Chloraminated / Ch	niorine Dioxid	e / Ozonated / Pei	roxizone / Fluorio	lated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Ā	Seawater		Sludge (Semi-solid Samples)
Finishing:	24.2.1	The state of the s	Milk		Soil/Sediment
Starting:	: ·	- 5			
Net (M ³)		_	, ,		Biota (Type):
☐ AtaCharcoal Cartridge	· ·		Radon Canister	<u>_</u>	Other:
A Marchancosi Caruinge				<u> </u>	
COMMENTS: (Cautions, e	(c):			 !	
☐ Field Treatment: Pres			ed/Frozen:	Oth	er:
☐ Field Measurement:	mR/h	ır İ D	Radionuclide(s)		
	preamanged and have superv				· · · · · · · · · · · · · · · · · · ·
	For questions, please call 510			· · · · · · · · · · · · · · · · · · ·	
_	· · ·				
☑ Gross Alpha ☑ Total Uranium		Gross Beta	00)	Gamma Sca	···········
Total Radium Total Radium		Total Beta 🍪	6C)	NORM (Gar	•
⊒ Radium-226		Tritium (³ H)	:	•	encium / Curium
□ Radium-228		Carbon-14	•	☐ Isotopic Plu	
Radon-222		lodine-131	.00	☐ !sotopic The	
		Strontium-80.	.90	lsotopic Ura	num
Other (Specify);	<u>U</u> !	Nickel-63		☐ Iron-55	
CHAIN OF CUSTODY	Hans The	SCH	3	•	30-110-11-
Date	Name (Print)	* 14C	11		Date //
7/05	- WRC		Mayor	WOSSOH	1400
Time Custody Replied	Organization 4 (Value)	S 	ignature	A	Time stody Released
Date /	Name (Print)		11	71 /	Date Blo Aley /2
1440 -	MBC		1 49	SM.	
Time Custody Received	Organization		ignature		Time Custody Released
Date	Name (Print)				Date
Time Custody Received	Organization	s	ignature		Time Custody Released
ABORATORY REMARKS Condition at Time of Rec Condition at Time of Rec Condition at Time of Rec Condition at Time except	:elpt: Broken Container		Leaked in Transi Insufficient Samp	t	☐ Improper Centainer
. Preservatives/Carriers: Q Added White Samplin	Q Added in Laborat	on D	Not Added		(T) Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0133

Collector:

Wayne Dossett

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Sciences, 30 Costa Mesa

1500 Capitol Avenue, MS 7610 Sacramento

ÇA

92626

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7940

System No:

Site/Project Name: San Onofre NPP / May 2012

CA

Billing Agency: RHB

Samples Received by Lab: 5/17/2012

Parameter Method Result +/- CE **MDA** 95 Units Lab No: 12-0133-01 Sample ID: R 92008 Time Collected: 5/15/2012 10:59 Sampling Point: SONGS C Sample Type: Seawater K-40 EPA 901.1 376 +/- 21.9 83.8 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLI	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	5/17/12 #12-0133
Richmond, CA 94804 510-620-2911 510-620-2930	Date & Time Sampled Serial Number
Attn Shiyamatic Robert	S/15/12 1059 R 92008
Collector Information	Reporting Information
Name: Wayne Dossett	Name: Shave Hou
Address. — Wec Applied Environmental 2 one	Debt/Branch: CDDH - KHR
Dept./Branch: MEC Applied Environmental Score Address: 3000 Fed Hill Ave. Costa Mesa, Ca	10 Box 99-7414 MS 7610
Telephone No.: 114 - 850 - 482/	Telephone No.: CHI - 440 - 7040
Sample Information	Billing Agency
System Name / Facility: SONG Sampling Point (s):	D DWFOB() RHB D RWQCB() DTSC
C	DWTPB DFDB DWR DCDFG DEMB DCther (Specify)
System No.:	Cities (opecity)
TYPE OF SAMPLE (Check all applicable boxes)	2
Drinking Water Groundwater	Surface Water
☐ Raw ☐ Water Treatment Plant (WTP)	Distribution System Point of Use (POU)
□ Treated (сиске опе): Uniorinated / Chlorine Bio	Alie / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater
Finishing:	Milk Soil/Sediment
Starting:	☐ Wipes ☐ Biota (Type):
Net (M³)	3遷
Air Charcoal Cartridge	Radon Canister
2	
COMMENTS: (Cautions, etc.):	The state of the s
☐ Field Treatment: Preservatives added:	ed/Frozen: Other:
Field Measurement:mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory appr	ov <mark>al</mark>)
ANALYSIS REQUESTED (For questions, please call 510-620-2911)
☐ Gross Alpha ☐ Gross Beta	`- k
☐ Total Uranium ☐ Total Beta	- a
☐ Total Radium ☐ Tritium (3H	
☐ Radium-226 ☐ Carbon-14	
☐ Radium-228 ☐ Iodine-131	The state of the s
☐ Radon-222 ☐ Strontium-	
Other (Specify); O Nickel-63	□ Iron-55
CHAIN OF CUSTODY	
1. 5/15/12 Wayne Docsett	5/15/12
Date Name (Print)	Date Date
Time Custody Received Organization	Signature Time Custody Released
- 15 May 12 Pope of Moore	14 May 12
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
Date 5/17/12 Name (Print) A TAN	
1230 0100	Date
Time Custody Received Organization	Signature /6 Time Custody Released
ABORATORY REMARKS (Leave Blank)	
Condition at Time of Receipt:	< Oral MR/h
CI Acceptable CI Broken Container CI Holding Time Exceeded CI Sample Not Cooled	Leaked in Transif
사고 하는 사고 아이를 받아야 하는데 그는 그들은 사람들이 되는데 하는데 하고 있었다.	· · · · · · · · · · · · · · · · · · ·
. Preservatives/Carriers	



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0134

Collector:

Wayne Dossett

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Sciences, 30

CDPH - RHB, 1500 Capitol Av., MS 7610 CA

Costa Mesa

92626

Sacramento

95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / May 2012

CA

Billing Agency: RHB

Samples Received by Lab: 5/17/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0134-01	Sample ID: R 92009 Sample Type: Seawater	Time Collected: 5/15/2012	10:59 Sampling Point	: SONGS C
Tritium	EPA 906.0	-93.6 +/- 154		pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Lab 803 (11/07)²

· .	REQUEST FOR SAMPL	EANALYSIS (Radiocher	nical)
Sanitation and Radiation	n Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway,	G164	5/\$3/17	
510-620-2911	10-620-2930	Date & Time Sample	ed Serial Number
A#n:	Shippingle Rubera	5/15/12 11	259 R 92009
Collector information			
Name: Wayne Di	CSSCAT	Name: Stove Hu	
Dept/Branch: MBC M	ossedt Pplied Environmental Science	Dept./Branch: CDPH	KHB . Distriction
1 3 3 4 KOU	THIS THE TANKS IN THE TANK IN	Manage MO MOX (1	$9 \cdot 70 \mid 4 \mid \text{Wis} \mid 71 \cdot 10 \mid 1 \mid 1$
Telephone No.:	1-850 - 4830	Telephone No.: Cita	70, (* 1689)
		Spilling Agency	
System Name / Facility: Sampling Point (s):	SONGS	DWFOB() XR	HB □ RWQCB() □ DTSC
· · · · · · · · · · · · · · · · · · ·		DOWTPB DFD	
System No.			her (Specify)
TYPE OF SAMPLE (Chec	k all applicable boxes)	4	
Drinking Water	Groundwater	Surface Water	☐ Wastewater
Raw	☐ Water Treatment Plant (WTP)	Distribution System	Point of Use (POU)
U Treated (circle one): C	hlorinated / Chloraminated / Chlorine Dio	xide / Ozonated / Peroxizon	e / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater	☐ Sludge (Semi-solid Samples)
Finishing:	·	Milk.	□ Soil/Sediment
Starting:		Wipes	
Net (M³)		Radon Canister	☐ Biota (Type):
Air Charcoal Cartridge	''''''''	Tradori Carlister	Other:
· · · · · · · · · · · · · · · · · · ·		<u> </u>	
COMMENTS: (Cautions, e			
☐ Field Treatment: Pres		leed/Frozen:	Other:
Field Measurement:	mR/hr	Radionuclide(s), if know	wn:
⊒ Rush/Priority (should be	prearranged and have supervisory appr	ofai)	·· ·
ANALYSIS REQUESTED ((For questions, please call 510-620-2911) L	
☐ Gross Alpha	☐ Gross Beta	.T. ⊇	amma Scan
☐ Total Uranium	Total Beta	6	ORM (Gamma)
☐ Total Radium	√ Tritium (³H		otopic Americium / Curium
Radium-226	Carbon-14	E	otopic Plutonium
Radium-228	🗀 lodine-131	F	otopic Thorium
Radon-222	☐ Strontium-		otopic Uranium
Other (Specify);	Nickel-63	∳ □ Iro	•
HAIN OF CUSTODY		**************************************	
Date 5/15//2	Name Dossett		5/15/17
1059	Name (Print)	1/2.0	Date Who
Time Custody Received	Organization	Signature	Time Custody Released
Date 15/10/12	Name (Print)		
14/00			Date /
Time Custody Received	Organization	Signature	Time Custody Released
Date 5 17 12	Name (Print)	Transition of the Control of the Con	
13.30	DW/RIB	A To	Date
Time Custody Received	Organization	Signature (4)	Time Custody Released
ABORATORY REMARKS	(Leave Blank)		
 Condition at Time of Rec 	eipt:		
☐ Acceptable ☐ Holding Time Exceeds		Leaked in Transit	☐ Improper Container
Preservatives/Carriers:	The state of the s	A insufficient Sample	
☐ Added White Samplin	Added in Laboratory	Not Added	Phys Area A 115



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0135

Collector:

Wayne Dossett

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Sciences, 30 Costa Mesa

ÇA

1500 Capitol Avenue, MS 7610

CA 95814-5006

92626

Sacramento

Phone Number: 714-850-4830

Phone Number: 916-440-7940

Site/Project Name: San Onofre NPP / May 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 5/17/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0135-01	Sample ID: R 92011 Sample Type: Seawater	Time Collected: 5/15/2012	10:25 Sampling Point	: SONGS D
K-40	EPA 901.1	365 +/- 22.8	82.8	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

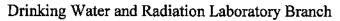
⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR S	AMPLE ANALY	(SIS (Radiochemical)	
Sanitation and Radiation			Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway,	G164		547110	12-0125
510-620-2911	10-1620-2930		Date & Time Sampled	Serial Number
Attn S	Shippinvalle Rubero	× 1 5	15/12 1025	R 92011
Collector Information		Report	ing Information 🚡	
Name: James Nui	iez /	Name:	Strove Head	
Address: 2 XXXX A	PPhed Environmental -	Octoon Debrue	Laucu: CDbH KHI	3 . 005 71010
JSUSY DOU	pplied Environmental Hill Are Costa Me	37, (2	2000 DX (10) - 15	tia in inn
Telephone No.: 🦳 🎮	- 370-4830	Telepho	one No.:	0-7040
Sample Information System Name / Facility:	0 21100	figures?	Whench	
Sampling Point (s):	SONGS	DWI	FOB() OTRHB C	RWQCB() DIDTSC DWR DICDFG
System No.:	D	EME		ecify)
YPE OF SAMPLE (Check	r all anolicable hoves)	<u>.</u> <u>.</u> .		
Drinking Water	Groundwater	Fil Quefi	ace Water	C) Miniterrates
Raw	Water Treatment Plan	it (WTP) 🚨 Distr	ibution System	☐ Wastewater ☐ Point of Use (POU)
I Treated (circle one): Cl	hiorinated / Chloraminated / Chlo	orine Dioxide / Oz	onated / Peroxizone / Flue	oridated / Coagulated / pH Adjusted
Air Filters	Date/Time	Sean	vater	☐ Sludge (Semi-solid Samples)
Finishin	·	Milk	* 4101	☐ Soil/Sediment
a	· · · · · · · · · · · · · · · · · · ·	Q Wipe		
Net (M³)	<u> </u>	36		☐ Biota (Type):
Air Charcoal Cartridge		au Rado	on Canister	Other:
Air Ghaicear Gaidinge			·	
OMMENTS: (Cautions, e				
Field Treatment: Pres		qed/Fro	zen: (Other:
	mR/hr	⊒ Radio	onuclide(s), if known:	· · · · · · · · · · · · · · · · · · ·
Rush/Priority (should be	prearranged and have supervis	ory approval)		.*'
NALYSIS REQUESTED (For questions, please call 510-6	20-2911)		
Gross Alpha	☐ Gr	oss Beta	∕ Gamma	Scan
Total Uranium	□ To	otal Beta (LSC)	☐ NORM (
Total Radium		itium (³H):		Americium / Curium
Radium-226	☐ Ca	erbon-14	☐ Isotopic I	
Radium-228	🔍 🚨 loc	dine-131 🖟	☐ Isotopic ⁻	Thorium
Radon-222		rontium-89, 90	☐ Isotopic (
Other (Specify);	D Nic	ckel-63	☐ Iron-55	
IAIN OF CUSTODY	1 -			
	Name (Print)	<u> </u>	`	5/15/12
1025	_MBC		h = 1	Date /400
Time Custody Received	Organization	Signatur	8	Time Custody Released
Date // 5 / 1 5-	Name (Print)	一/ [^] ~)		Date 14 May 12
1400	MC_		Hellen	/ Leac
Time Custody Received	Organization	Sighatur	•	Time Custody Released
Date 17 12	Name (Print)			Date
13.30	Di ADIB	An	ala Ta	
Time Custody Received	Organization	Signatur		Time Custody Released
BORATORY REMARKS	(Leave Blank)			
Condition at Time of Rec	elpt: Broken Container	.	<0.01 MR/hr	
Q Holding Time Exceed	ed Sample Not Cooled		ked in Transit	☐ Improper Container
Preservatives/Carriers:				맞면 되었다는데 나라고 됐다.
☐ Added While Samplin	g Added in Laboratory	B Not	Added	Not Applieshts



State of California - Health and Human Services Agency

California Department of Public Health



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0136

Collector:

Wayne Dossett

RHB

Requestor: Roger Lupo

RHB

MBC Applied Environmental Sciences, 30

CDPH - RHB, 1500 Capitol Av., MS 7610

Costa Mesa

92626

Sacramento

95814-5006 CA

Phone Number: 714-850-4830

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / May 2012

CA

Samples Received by Lab: 5/17/2012

System No:

Parameter

Billing Agency: RHB

Units

Method

Result +/- CE

MDA 95

Lab No: 12-0136-01

Sample ID: R 92014

Time Collected: 5/15/2012 10:25

Sampling Point: SONGS D

Tritium

EPA 906.0

Sample Type: Seawater

-87.6 +/- 154

267

pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

		AMPLE ANALYSIS (R	adiochemical)	
Sanitation and Radiation I		Date	Received	Lab No. (Leave Slank)
850 Marina Bay Parkway, G	近4	571	7112	10-0186
Richmond, CA 94804 510-620-2911 . 5	10-620-2930		Time Sampled	Serial Number
	nyamalie Robera	5/15/12	1025	R 92014
Colector Intompation		Reporting Info	rmation	**************************************
Name: James	Nunez	Name: Stev	re Hau	· ·
Dept./Branch: MBC A	applied Environnen	Tell Suppliers D	CDPH - KHB	VYICE CHAIC
Address: 3000 Pod +	tiel Are Costa Meso	VICAL SOL	ROX 94-141	14 MS 7610
Telephone No.:	<u>1-850-4830</u>	Nelephone No.	: <u>440</u>	-7040
Sample Information		Billing Agency	У	
System Name / Facility:	Songs	DWFOB (RWQCB() DTSC
Sampling Point (s):	17.1	D DWTPB		DWR CDFG cify)
System No.:	_1)	E CINU	U Oner (oper	(VIK)
TYPE OF SAMPLE (Check	all applicable boxes)		\$.	
☐ Drinking Water	☐ Groundwater	Surface Wa	iter .	☐ Wastewater
☐ Raw ¯	Water Treatment Plant	(WTP) 📮 Distribution	System	Point of Use (POU)
Treated (circle one): Ch	lorinated / Chloraminated / Chlor	ine Dioxide / Ozonated	/ Peroxizone / Fluori	idated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater	1	☐ Sludge (Semi-solid Samples)
		Milk		□ Soil/Sediment
		Wipes		Biota (Type):
· · · · · · · · · · · · · · · · · · ·		in i		Other:
Net (M³)		Radon Cani	ster	J Otner.
Air Charcoal Cartridge				
COMMENTS: (Cautions, et	tc.):		:	en de la companya de
☐ Field Treatment: Pres	ervatives added:	iced/Frozen: _	Ot	ther:
	mR/hr	Radionuclic	de(s), if known:	
	prearranged and have superviso			
	For guestions, please call 510-62			S
		J ∰ {1	□ Camma S	
Gross Alpha		oss Bétal,	☐ Gamma So	
☐ Total Uranium		tal Beta (LSC)	☐ NORM (Ga	-
☐ Total Radium		itium (⁸ H)	•	mericium / Curium
Radium-226	•	arbon-14 🗧	☐ Isotopic Pl	•
Radium-228		dine-131 :	☐ Isotopic Th	
☐ Radon-222		rontium-89, 90	☐ Isotopic U	ranium
Other (Specify);		ckel-63	☐ Iron-55	
CHAIN OF CUSTODY	1			
1. <u>\$/15/12</u>	James Ninez Name (Print)	— (* /)		
1025	WAY_		2	1400
Time Custody Received	Organization 1	Signature		Time Custody Released
2	Name (Print)	—	111 100	Date // /2_
1400	MBC	- Kulent	1 home	1604
Time Custody Received	Organization A TALL	Signature		Time Custody Released
3. Date 5/17/12	Name (Print)			Date
13.24	TIN/PID	An agl	, To	<u></u>
Time Custody Received	Organization	Signature		Time Custody Released
LABORATORY REMARKS				
A. Condition at Time of Rec	celpt:		Transit 31	Ph. Imanuar Cantainer
☐ Acceptable ☐ Holding Time Exceed	☐ Broken Container fed ☐ Sample Not Cooled	D Leaked in D Insufficient		☐ Improper Container
이 그리가 되면 얼룩하게 봤었는 하상			Compression of the first	
 B. Preservatives/Carriers: Added While Sampling 	ng D Added in Leborator	v □ Not Added	realization (Company) List Valori est est comment	Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0062

Collector:

Wayne Dossett

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Sciences, 30 Costa Mesa

1500 Capitol Avenue, MS 7610

CA 95814-5006

92626

Sacramento

Phone Number: 714-850-4830

Phone Number: 916-440-7940

Site/Project Name: San Onofre NPP / April 2012

CA

System No:

Billing Agency: RHB

Samples Received by Lab: 4/18/2012

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0062-01 Sample ID: R 91957 Time Collected: 4/16/2012 11:20 Sampling Point: SONGS D Sample Type: Seawater Tritium EPA 906.0 20.4 +/- 166.4 284.4 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

· · · · · · · · · · · · · · · · · · ·	REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation 850 Marina Bay Parkway	n Laboratories Branch	Date Received	Lab No. (Leave Blank)
i Richmond, CA 94804	, G104	4-19-12	10-00/2
510-620-2911 Alto	50-620-2930	Date & Time Sampled	Serial Number
	Shirking in Kolxiv	4/16/12-1120	R 91957
Collector information Name: Wayne	Dossed	Reporting Information	
Dept./Branch: NA 12 / A	polied Fauragement Carin	Name: Stave HSU	
Address: 3000 Rod	pplied Environmental Sceince Hill Ave Costa Mesq. (a	Address: DO ROY CO RHB	14 000 71-10
		To Suctamontes A	'a 000000
Telephone No.: 7 ∠ Sample Information	-850-4830		79899
System Name / Facility:	SONGS	Diffing Agency	
Sampling Point (s):	30 NG 3	D DWFOB() X RHB D DWTPB D FDB	RWQCB() DTSC
	\triangleright	DWTPB DFDB DEMB DOTHER (Spe	DWR CDFG
System No.:		L Citier (Spe	
TYPE OF SAMPLE (Chec	•		
☐ Drinking Water ☐ Raw	Groundwater Water Treatment Plant (ACTO)	Surface Water	Wastewater
	□ Water Treatment Plant (WTP)	Distribution System	Point of Use (POU)
	hlorinated / Chloraminated / Chlorine Dio	me / Ozonated / Peroxizone / Fluor	idated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater	Sludge (Semi-solid Samples)
Finishing:		No. 1 and	☐ Soil/Sediment
Starting:		<u> </u>	☐ Biota (Type):
Net (M³)		<u>***.</u>	
Air Charcoal Cartridge			Other:
			<u> </u>
COMMENIS: (Cautions, e	tc.):		And the second s
Field Treatment: Pres	——————————————————————————————————————	57	her:
Field Measurement:	mR/hr 👉	Radionuclide(s), if known:	
*****	prearranged and have supervisory appro	wal)	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	K.	
☐ Gross Alpha	☐ Gross Beta	☐ Gamma So	can
☐ Total Uranium	☐ Total Beta	LSC) D NORM (Ga	
2 Total Radium	(³H) Tritium		nericium / Curium
Radium-226			
Radium-228	Carpon-14	□ Isotopic Th	
Radon-222	\$trontium-8		· ·
Other (Specify);	Nickel-63	□ Iron-55	
HAIN OF CUSTODY		2 1/01/-55	
C 4/16/17	Wayne Dosse H		4/16/12
Date // 20	Name (Print)	1/2000	Date Date
Time Custody Received	Organization	Signature Signature	<u> 1800 </u>
4/16/12	Tenny Sports	Signature /	Time Custody Released
Date 1800	Name (Print)	L V .	Date
Time Custody Received	Organization MBC 19	- Reun In	~ 1700
4-14-12	UA / VIII	Signature	Time Custody Released
Date 10:00	Name (Print)	19	Date
Time Custody Received	Organization Organization	Single Mario M. a	<u>k.</u>
		Signature	Time Custody Released
ABORATORY REMARKS Condition at Time of Rec	(Leave Blank) がはりの	MR/HO	
Acceptable	O Broken Contains	U Leaked in Transit	
U Holding Time Exceeds		Insufficient Sample	U Improper Container
Preservatives/Carriers;			
O Added While Samplin	Added in Laboratory	Not Added	and the second



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0061

Collector:

Jenny Smith

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Science,3000

1500 Capitol Avenue, MS 7610

ide, MS 7010

Costa Mesa

CA

Sacramento

CA 9581

Phone Number:

Site/Project Name: SONPP / April 2012

Phone Number: 916-440-7940

System No:

Billing Agency: RHB

Samples Received by Lab: 4/18/2012

Parameter	<u>.</u>	М	ethod	Result -	+/- CE	1	MDA 95	Units	
Lab No: 12-00		Sample ID: Sample Type:	R 91955 Seawater	Time Collected: 4	/16/2012	11:20	Sampling Point:	SONGS D	
K-40			A 901.1	303			78.3	pCi/L	

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radio-nuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)					
Sanitation and Radiation	on Laboratories Branch	Date Received Lab No. (Leave Blank)			
850 Marina Bay Parkway	· · · · · · · · · · · · · · · · · · ·	4-18-12 12-006			
Richmond, CA 94804 510-620-2911	510-620-2930	Date & Time Sampled Serial Number			
Affil:	Simprimatic Rubers	Date & Time Sampled Serial Number 91955			
Collector Information	Descents	Reporting Information			
Name: U/GYNC	Dosse 44	Name: Steve HSU			
Address: 2777 Part	Applied Environmental Serince Hill Ave. Costa Mesa, Ca	Nept/Branch: CDPH - RHB			
(12/02/6)	HILL AUR. COSTA MUSA, Ca	Address: PO BOX 99-7414 MS 7610			
Telephone No.:	4-850-4830	Telephone No.: 916-440-7940			
Sample Information	_	Billing Agency			
System Name / Facility: Sampling Point (s):	SONGS	D DWFOB() RHB D RWQCB() DTSC			
Sampling Folkl (8):		DWTPB DFDB DWR CDFG			
System No.:	<u> </u>	EMB Other (Specify)			
TYPE OF SAMPLE (Chec	ck all applicable boxes)				
Drinking Water	Groundwater	Surface Water			
Raw Translated (altertantia)	■ water Treatment Plant (WTP)	Distribution System Disprint of Use (POLI)			
u i reated (circle one); (Informated / Chloraminated / Chlorine Diox	ide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjuster			
☐ Air Filters	Date/Time	Seawater Sludge (Semi-solid Samples)			
Finishing:		Milk D Soil/Sediment			
Starting:					
Net (M ³)		¥			
Air Charcoal Cartridge		Radon Canister			
COMMENTS: (Cautions,	etc.):				
Field Treatment: Pre		Red/Frozen: Other:			
→ Field Measurement:\	mR/hr	Radionuclide(s), if known:			
	e preamanged and have supervisory appro				
	(For questions, please call 510-620-2911)				
☐ Gross Alpha	☐ Gross Beta	Gamma Scan			
☐ Total Øranium	Total Beta (ESC) O NORM (Gamma)			
Total Radium	☐ Total Beta (☐ Tritium (³H)	☐ Isotopic Americium / Curium			
Radium-226	☐ Carbon-14	☐ Isotopic Plutonium			
Radium-228	☐ lodine-131				
Radon-222	☐ Strontium-8				
O Other (Specify);		9, 90 Lisotopic Uranium			
HAIN OF GUSTODY		- Contrage			
Date 1/1/17	Waine Dossett	4/16/12			
1120	Name (Print)	Date Date			
Time Custody Received	Organization	Signature Time Custody Released			
1/10/12	Tenny Smith *	The Gustody Hereased			
Date 1800	Name (Print) 1 M Px	Date 17/12			
Time Custody Received		Signature Time Custody Released			
/1-18-17		Time Custody Released			
Date 10:00	Name (Print)	Date			
Time Custody Received	Organization DWRLB	Signature Time Custody Released			
ABORATORY REMARKS	(Days District)				
Condition at Time of Rec	celpt:	1.01 MR/4R			
☐ Acceptable ☐ Holding Time Exceed		Leaked in Transit			
	led C Sample Not Cooled	D Insufficient Sarriple			
Preservatives/Carriers: Added White Samplin					
- Contract actual Catalibility	Added in Laboratory	Not Added			



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0060

Collector:

Jenny Smith

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Science, 300 Costa Mesa

1500 Capitol Avenue, MS 7610

92626

Sacramento

CA 95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7940

Site/Project Name: San Onofre NPP / April 2012

CA

System No:

Billing Agency: RHB

Samples Received by Lab: 4/18/2012

Parameter	Method 	Result +/- CE	MDA 95	Units
Lab No: 12-0060-01	Sample ID: R 91953 Sample Type: Seawater	Time Collected: 4/16/2012	15:30 Sampling Point	: SONGS C
Tritium	EPA 906.0	-32.7 +/- 165.1		"pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Bate Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	大量電流技術を行った機能のは、「裏には大学にはは、「はないにはない」という。 はな 100000億円 はないない 裏には最近に 裏面を はない かいしゅ
Richmond, CA 94804 5(0 - 62) - 2720	
510-620-2911 Athi Shiyamatic Rulaia	Date & Time Sampled Serial Number
	14/16/12 1530 R 91953
Collector Information	
Name: Jenny Smith Dept./Branch: MBC Applied Environmental Swen Address: 3050 Red Hill Ave Costri Masa co	Name: Steve HSU
Debribanch: MASC Applied ENUVUMENTAL Science	Pept/Branch: CDPH-RHB
Address: 3000 Red Hull Ave. Costa Mosa, Ca	
Telephone No.: 74-850-4830	Sacramento, Ca 95899
Sample Information	Telephone No.: Q(6-440-7040)
System Name / Facility: SONGS	
Sampling Point (s):	D DWFOB() XRHB D RWQCB() D DTSC
('	
System No.:	C EMB C Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
B = 1 12 12 12 12 12 12 12 12 12 12 12 12 1	
Raw Water Treatment Plant (WTP)	Surface Water
Treated (cities one): Chlorinated (Chloraminated (Chlorina Die	Distribution System Point of Use (POU)
The state of the s	ide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	
	☐ Milk ☐ Soil/Sediment
Starting:	☑ Wipes □ Biota (Type):
Net (M³)	Radon Canister
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	Part of the second seco
☐ Field Treatment: Preservatives added:	ced/Frozen: Other:
Rush/Priority (should be prearranged and have supervisory appre	Radionuclide(s), if known:
Trade in Hority (arround be preamanged and have supervisory appro	yal)
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
☐ Gross Alpha ☐ Gross Beta	
D. T. I U.S. Dela	- Julius Court
Total Dollar	(55.111/6)
	Isotopic Americium / Curium
Radium-226 Carbon-14	☐ Isotopic Plutonium
Radium-228 lodine-131	□ Isotopic Thorium
Radon-222 Strontium-	9, 90 🕠 🖸 Isotopic Tranium
Other (Specify);	□ Iron-55≻
CHAIN OF CUSTODY	G 101-33
1 4/16/12 Jenny mith	
Date Name (Print)	4/17/12
1530 MBC 5	Dete Date
Time Custody Received Organization	Signature Time Custody Released
Date Name (Print)	
PDate Name (Print)	Date
Time Custody Received Organization *	Signature Time Custody Released
3. <u>4-14-12</u>	Signature Time Custody Released
Date 0:00 Name (Print)	Date
Time Overed Description	() reloca 12 MA (III)
Time Custody Received Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank)	
A. Condition at Time of Receipt:	001 MR/4R
Acceptable Q Broken Container	J Leaked in Transit
A STATE OF THE PARTY OF THE PAR	Insufficient Sample
B. Preservatives/Carriers.	
Adding target of the second	Not Added. D Not Applicable
.ab 803 (11/07)	3 Not Added.
······································	i. I hade '



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0059

Collector:

Jenny Smith

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Science,3000

1500 Capitol Avenue, MS 7610

Costa Mesa

ÇA

Sacramento

CA 95814-5006

Phone Number:

Phone Number: 916-440-7940

System No:

Site/Project Name: San Onofre NPP / April 2012

Billing Agency: RHB

Samples Received by Lab: 4/18/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0059-01	Sample ID: R 91952 Sample Type: Seawater	Time Collected: 4/16/2012	15:30 Sampling Point	: SONGS C
K-40	EPA 901,1	344 +/- 18.	5 64,9	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Sanitation and Radiation Laboratories Branch Sol Marins Bay Parkway, G164 19-12 12-005 9	REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Richmond, CA 94804 510 - 620 - 2 3 30 Serial Number Alth Shudow of Robbert Reservatives Reservat	Sanitation and Radiation Laboratories Branch		Lab No. (Leave Blank)
Solution Collector Information Information Collector Information Collector Information Information Collector Information I		4-18-12	12-0059
Collecto Information	1540 COO COA4		
Sample S		4/16/12 1530	R 91952
Dept/Enanch MSC Applied Environmental Science Dept. Park Address: 200 Ped Httl Are Costs Mess. Costs		Reporting Information	N ULJUE
Telephone No. 14 - 850 - 4830 Telephone No. 2012 - 400 Telephone	Name: Jenry Smith	Name: Steve Hsu	
Telephone No. 14 - 850 - 4830 Telephone No. 2012 - 400 Telephone	Address: 3000 Red Lill A Environmental Science	Dept./Branch: CDPH - RHB	
Sample Information System Name Facility: Sampling Point (s): Sampling Point (s): System Name Facility: Sampling Point (s): System Name Facility: System Name Facility: System No: System No: Surface Water Groundwater Groun		Sacramioto	15 7610
Sampling Point (s): System Name / Facility: System No: DWFOR () DW		Γ_{i} = Γ_{i} $\Gamma_$	12844
Sampling Point (s): DWTPB FIRB DWR CDFG	1	Billing Agency	
System No.: Copy C		DWFOB() RHB RWQC	
System No. Type OF SAMPLE (Check all applicable boxes) Christing Water Groundwater Groundw	C		□ CDFG
Groundwater Groundwater Raw Water Treatment Plant (WTP) Surface Water Point of Use (POU)		d other (specify)	-
□ Raw □ Water Treatment Plant (WTP) □ Distribution System □ Proint of Use (POU) Treated (cipple one): Chlorinated / Chlorinated / Chlorine Dioxife / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted Air Filters □ Date/Time □ Seawater □ Sludge (Semi-solid Samples) Finishing: □ Differ □ Sulface □ Soli/Sediment □ Soli/Sediment □ Starting: □ Wilk □ Soli/Sediment □ Starting: □ Wilk □ Soli/Sediment □ Other: □ Colorinated □ Colorinated □ Other: □ Colorinated □ Colorin	TYPE OF SAMPLE (Check all applicable boxes)		
Treated (clipie one): Chlorinated / Chlorinaminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Cagullated / Phadjusted Air Filters	☐ Drinking Water ☐ Groundwater	Surface Water	stewater
Air Filters Date/Time Air Seawater Sludge (Semi-solid Samples)		■ Distribution System □ Poir	it of Llea (DOLI)
Finishing: Starting: Starting: Wipes Biota (Type): Radon Canister Other:	Treated (Chipre one): Chlorinated / Chlorine Diox	ide / Ozonated / Peroxizone / Fluoridated /	Coagulated / pH Adjusted
Finishing: Starting: Net (M*) Air Charcoal Cartridge COMMENTS: (Cautions, etc.): Field Treatment: Preservatives added: Field Measurement: Field	☐ Air Filters Date/Time	Seawater D Slud	lge (Semi-solid Samples)
Starting: Star	Cintals	C	
Net (M*) Air Charcoal Cartridge COMMENTS: (Cautions, etc.): Field Treatment: Preservatives added: Field Measurement: mR/hr Radionuclide(s), if known: Rush/Priority (should be prearranged and have supervisory appropal) ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Total Radium Total Radium Total Radium Radium-228 Carbon-14 Radium-228 Carbon-14 Radium-228 Coller-131 Radium-229 Coller (Specify): ChAIN OF CUSTODY ALL L12 Date Name (Print) Time Custody Received Date Name (Print) Time Custody Received Name (Print) Time Custody Received Name (Print) Time Custody Received Date Name (Print) Time Custody Received Organization Name (Print) Time Custody Received Date Name (Print) Time Custody Received Organization Name (Print) Date Name (Print) Time Custody Received Date Time Custody Received Organization Name (Print) Date Time Custody Received Date Time Custody Received Date Time Custody Received Date Time Custody Released ABDRATORY YEBNARKS (Leave Blank) Condition at Time of Receipt: ABDRATORY YEBNARKS (Leave Blank) Condition at Time of Receipt: Accordation Add While Sample Not Cooled Date Preservatives Carriers: Add While Sample	Starting:	¥	••
Air Charcoal Cartridge	Net (M³)	k _ '.	
CoMMENTS: (Cautions, etc.): Field Treatment: Preservatives added: Radionuclide(s), if known:	Air Charcoal Cartridge	S Nadou Gamatei G Offic	er:
Field Treatment: Preservatives added:			· · · · · · · · · · · · · · · · · · ·
Field Measurement:			and the state of the second
Rush/Priority (should be prearranged and have supervisory appropal) ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Gross Beta Total Uranium Total Radium Total Radium-228 Radium-28 Radium-29 Radium-20 Radium-		ced/Frozen: Other:	
ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Gross Beleat Gamma Scan Total Uranium Gross Beleat Gamma Scan Gamma Scan Total Radium Gross Beleat Gamma Scan Gamma Scan Gordon-14 Gross Beleat Gamma Scan Gordon-14 Gross Beleat Gamma Scan Gordon-14 Gross Beleat Gamma Scan Gross Beleat Gross Beleat Gamma Scan Gross Beleat Gross Beleat Gamma Scan Gross Beleat Gamma Scan Gross Beleat Gross Alpha Gross Alp		Radionuclide(s), if known:	 *.
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Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 12-0058

Collector:

Jenny Smith

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Science, 300

1500 Capitol Avenue, MS 7610

Costa Mesa

Sacramento

CA 95814-5006

Phone Number: 714-850-4830

Site/Project Name: San Onofre NPP / April 2012

CA

Phone Number: 916-440-7940

System No:

Billing Agency: RHB

Samples Received by Lab: 4/18/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0058-01	Sample ID: R 91946 Sample Type: Seawater	Time Collected: 4/16/2012	15:20 Sampling Point	: SONGS B
Tritium	EPA 906.0	-138.9 +/- 162.6	284.4	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

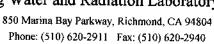
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST F	OR SAMPLE	ANALYSIS (Radio	ochemical)	
Sanitation and Radiation Laboratories Branch	:	Date Rec	čivec	Lab No. (Leave Black)
850 Marina Bay Parkway, G164 Richmond, CA 94804	[] 	4-19-	12	12-005%
1510 600 2014 2W (4V 4 T 2 T)		Date & Time		Serial Number
Attn: Shufamate Kub	217A	4/16/12	1520	R 91946
Collector Information		Reporting Informa		<u> </u>
Name: Jenny Smith		Name: Steve	HSU	,
Dept./Branch: MBC Applied Environment	DOSO CO	Biddress: D/2 Q	6H - K HR	14 ms 7610
Address: 3000 Red Hill Ave. Costa 1	W 2011 Cox	Succession FO	antento c	6 05399
Felephone No.: 14 - 2350 - 4350	الله الله الله الله الله الله الله الله	elephone No.:	W - 440	- 940
Sample Information System Name / Facility:		Billing Agency	· (. ,
Sampling Point (s):		DWFOB() DWTPB	XI RHB D F	
B	·	☐ EMB	Other (Spec	
System No.:				
TYPE OF SAMPLE (Check all applicable boxes)		•		
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment	The Diane (MCCO)	Surface Water		Wastewater
Treated (circle one): Chlorinated (Chloraminated)	/ Chlodos Diovi	Distribution Systems	em L	Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated	Chromie Diox	be / Ozonated / Per	oxizone / Fluorio	lated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	• >	Seawater	i di ka	Sludge (Semi-solid Samples)
Finishing:	<u> </u>	Milk		Soil/Sediment
Starting:		2 Wipes		Biota (Type):
Net (M ³)	1	Radon Canister		Other:
☐ Air Charcoal Cartridge			∏ -5	
COMMENTS: (Courtisms etc.):	X			
COMMENTS: (Cautions, etc.): D Field Treatment: Preservatives added:	· · · · · · } •		- b -	en e
		oed/Frozen:	Oth	ər:
☐ Rush/Priority (should be prearranged and have su	R/hr	Radionuclide(s),	if known:	
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ANALYSIS REQUESTED (For questions, please call				•
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	☐ Total Beta		O NORM (Gar	nma)
	Tritium (³ H)	• .	☐ Isotopic Am	ericium / Curium
= : \\\^*	Carbon-14		☐ Isotopic Plut	
☐ Radium-228	lodine-131-		Isotopic Tho	
	ngwe ith -	* · ·	Isotopic Ura	nium
	☐ Nickel-63	·	☐ Iron-55	
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Added White Sampling () Added in Labo	ratory [Not Added	Santan 🙀 🕹 Santan	D Not Applicable



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0057

Callector:

Jenny Smith

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Science 3000

1500 Capitol Avenue, MS 7610

Costa Mesa

CA

Sacramento

CA 95814-5006

Phone Number:

Phone Number: 916-440-7940

Site/Project Name: San Onofre NPP / April 2012

System No:

Billing Agency: RHB

Samples Received by Lab:

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0057-01	Sample ID: R 91945 Sample Type: Seawater	Time Collected: 4/16/2012	15:20 Sampling Point	: SONGS B
K-40	EPA 901.1	362 +/- 21.1	78.0	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

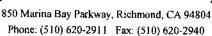
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

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Collector Information Name: Jenny March Name: Jenny Na	510-620-2011		Date & Time S	ampled	
Reporting Information Repo	AH	4 Syndamolic Kopsiv	4/110/12	1520	_ ~ :
Telephone No.	Collector Information		Phononia Informati	<u> </u>	11 31040
Telephone No.	Name: Jenny Sy	with	Name: Steve	Hsu	*
Telephone No.	Address: 2000 PC	iblied Phonounter land 2016 Act	Dept./Branch:	H-RHB	
System No: DWFP SAMPLE (Check all applicable boxes) DWFP S	92626	HILL AVE. COSTA THE SALES	Figuress. PU (S)	99 - 74	14 MS 7610
System No: DWFP SAMPLE (Check all applicable boxes) DWFP S	Telephonetto: -714 -	850 - 4838	elephone No.: C	W- 420 =	999819
DWTPB DWTPB DWR CDFG	Sample Information 🦯		Sound Adenca	Ş.	7779
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Raw	TYPE OF SAMPLE (Check	k all applicable boxes)	4		
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Soli/Sediment Starting:	☐ Air Filters	Date/Time	Seawater		Sludge (Semi-solid Samples)
Starting: Net (M) Radon Canister Radon Canister Other:	Finishing:	<u> </u>	· A		
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Condition at Time of Receipt: Acceptable Broken Container Leaked in Transit Improper Container Insufficient Sample Preservatives/Carriers: Added While Sampling	ABORATORY REMARKS	(Leave Blank)			
Holding Time Exceeded G Sample Not Cooled E Insufficient Sample Preservatives/Cerriers: Added White Sampling C Added in Laboratory	Condition at Time of Rec	elpt: = U.U.			
Preservatives/Cerriers: D. Added White Samolica:	☐ Acceptable ☐ Holding Time Exceeds		Leaked in Transit		☐ Improper Container
Added White Samolica The Added in Laborator	us de Leira de Philippi, e dans	weight with colony	- Irisumcient Sample	7 2 K	
		9 U Added in Laboratory	Not Added		D Not Applicable



Drinking Water and Radiation Laboratory Branch





FINAL Analysis Results Report for Task ID. 12-0056

Collector:

Jenny Smith

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Science, 300 Costa Mesa CA

Site/Project Name: San Onofre NPP / April 2012

Sacramento

CA 95814-5006

Phone Number: 714-850-4830

Phone Number: 916-440-7940

1500 Capitol Avenue, MS 7610

System No:

Billing Agency: RHB

Samples Received by Lab: 4/18/2012

Task ID: 12-0056

Parameter Method Result +/- CE MDA 95 Units Lab No: 12-0056-01 Sample ID: R 91944 Time Collected: 4/16/2012 15:35 Sampling Point: SONGS A Sample Type: Seawater Tritium EPA 906.0 -290.1 +/- 158.9 284.4 pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SAMPLE			<u> </u>
Sanitation and Radiation		Date Rec		Lab No. (Leave Black)
850 Marina Bay Parkway,		4-19	5-12	12-0051
Richmond, CA 94804 510-620-2911	510-620-2930	Date & Time	Sampled	- Serial Number
Alth	: Shiyamala Rubea	4/16/12	1535	R 91944
Collector Information	130	Reporting Informa	ation	-
Name: Jenny Smc	- I a A T- a service source of the Service of the S	Name: Steve		A.
Address: 2770 PC A	police Enduormonia Scares	Address: 12 12 5	JAH-KHB	
92626	AIII ANC. COSITITION CA	To We	renounts of	14 MS 7610
Telephone No.:	HILL AVE. COSTA MESG, CA.	telephone No.: 6	16-410-	79/1
Sample Information System Name / Facility:		Billing Agency		
Sampling Point (s):	21/16/5	DWFOB() DWTPB		RWQCB() DTSC DWR DCDFG
,,	$oxed{\Delta}$, $oldsymbol{\omega}_{i}$	EMB	Of Other (Spec	
System No.:				
TYPE OF SAMPLE (Check			·	÷
Drinking Water	Groundwater	Surface Water		Wastewater (2011)
Raw Treated (circle and): C	□ Water Treatment Plant (WTP) hlorinated / Chloraminated / Chlorine Diox			Point of Use (POU)
Ca Treated (Circle offe). C	Montated / Choraminated / Chorne Diox	Me / Ozonaleg / Pe	roxizone / Fluono	Jated / Coagulated / pri Adjusted
Air Filters	Date/Time	Seawater Seawater		Studge (Semi-solid Samples)
Finishing:		Q Milk	Ç	3 Soil/Sediment
Starting:		Wipes	C	Biota (Type):
Net (M ³)		Radon Canister		1 Other:
☐ Air Charcoal Cartridge		3 4.	O	
COMMETNITO: (Continue			1 W	
COMMENTS: (Cautions, e		lced/Frozen:	- I.	ner:
		:		er:
		Radionuclide(s)	, if known:	
	e preamanged and have supervisory appro			· · · · · · · · · · · · · · · · · · ·
ANALYSIS REQUESTED	(For questions, please call 510-620-2911)			
☐ Gross Alpha	☐ Gross Beta	*	Gamma Sc	an
Total Uranium	☐ Total Beta (A	☐ NORM (Ga	mma)
☐ Total Radium	Tritium (³ H)	•₩	Isotopic Am	ericium / Curium
Radium-226	Carbon-14 -		Isotopic Plus	
Radium-228	Clodine-131		Isotopic The	
Radon-222	Strontium-8	9 , .90	Isotopic Ura	anium
Other (Specify);	Nickel-63	作: <u>生</u>	☐ Iron-55	
CHAIN OF CUSTODY	7 0 3	रहें जैसेका ।		
S A 10 12	Name (Print)			4/17/12
() <u>1535</u>	NAR-F	- Colour	حدلاك	17(1)
Time Clistody Received	Organization	Signature	15.62 2 2 2 2 2 2 2 2	ime Custody Released
Date	Name (Print)			Date
<u> </u>		Part 1		_
Time Qistody Received	Organization	Signature		Time Custody Released
Date	Name (Print)			Date
Time Custody Received	OFFICE DURLB	Share July	you Mas	<u> </u>
Time Custody Received	Organization 30	Signature 5000		Time Custody Released
ABORATORY REMARKS	(Leave Blank)	0.01 MR/	l Lio	
Condition at Time of Red	ceint:	D. CI / W.K./		D. Images - Profession
G Holding Time Exceed	ded ☐ Sample Not Cooled	D Insufficient Sam		☐ Improper Container
. Preservatives/Cerriers:	는 이 이 보는 경기를 보는 것이 되는 것이 되고 말했다. 그는 것이 할 것이 되는 것이 하는 것이 되는 것이 되는 것이 되는 것이다.			
☐ Added While Samuli	D Added in Laboratory	☐ Not Addor		기도 되면 함께는 어떻게 되는 것



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 12-0055

Collector:

Jenny Smith

RHB

Requestor: Steve Hsu

RHB

MBC Applied Environmental Science,3000

1500 Capitol Avenue, MS 7610

CA

Costa Mesa

CA

Sacramento

95814-5006 Phone Number: 916-440-7940

Phone Number:

Site/Project Name: San Onofre NPP / April 2012

System No:

Billing Agency: RHB

Samples Received by Lab: 4/18/2012

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 12-0055-01	Sample ID: R 91943 Sample Type: Seawater	Time Collected: 4/16/2012 18	5:35 Sampling Poin	t: SONGS A
K-40	EPA 901.1	324 +/- 22.2	82.7	pCi/L

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the L1.D95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE	E ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164	Date Received Lab No. (Leave Blank)
Dishmand CA 04804	21-18-12 12-0055
56 562 7 2 10 C	Date & Time Sampled Serial Number
Attn: Shupanxille Roberca	4/16/12 1535 R 91943
Collector Information	
Name: Jenny Smith Dept/Branch: MBG Applied Environmental Scient Address: 3000 Red Will Ave Costs Mess	Name: Steve Hsu
Address: 3000 Ped Will Ave Costs Charge	Abdrass: D COPI+ - RHB
92626 Hill AVE. COSIGITIESO, Ca	10 Box 99-7414 MS 7610
Dept./Branch: MBC Applied Environmental Scient Address: 3000 Red Hill Ave Costa Mesa, Care Telephone No.: 14-850-4830 Sample Information	elephone No. 9110 - 1110 - 7940
System Name / Facility: SONGS	DWFOB() RHB RWQCB() DTSC
Λ	DWTPB D FDB D DWR D CDFG EMB D Other (Specify)
System No.:	EMB
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater	Surface Water
☐ Raw ☐ Water Treatment Plant (WTP)	Distribution System
Treated (circle one): Chlorinated / Chloraminated / Chlorine Dio	ode / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	×/_
Finishing:	a oldago (octili-solid Gamples)
Starting:	Milk Soil/Sediment
Net (M²)	Wipes □ Biota (Type):
☐ Air Charcoal Cartridge	Radon Canister
□ All Charcoal Carringe	
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	ced/Frozen: Other:
	Out
☐ Rush/Priority (should be prearranged and have supervisory appro	Radionuclide(s), if known:
	7.
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	*
☐ Gross Alpha ☐ Gross Beta	g Guilling Ocali
G Total Beta	
- Hiddin (H)	
Carbon-14	— .+++Pio i (atotilg)))
D D. L. and	
	9, 90 🔲 Isotopic Uranium
Other (Specify);	☐ Iron-55
CHAIN OF CUSTODY	
Date Date Print Print	1 1/12/12 K. 40
مسم 3 سم	Date
Time Custody Received Organization	Signature Time Justody Released
Date Name (Print)	
	Date
Time Custody Received Organization 3	Signature Time Custody Released
Date Name (Print)	<u> </u>
<u> 10:00</u> - Dulei B	Date
	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank)	
A. Condition at Time of Receipt:	IMR/HR
Holding Time Sycander	Leaked in Transit Improper Container Insufficient Sample
B. Preservatives/Carriers:	- Chromogra Galipte (1997)
ടെ 2 പ്രത്യം പ്രവേശത്തിലൂടെ അവിവ്യം പ്രവേശത്തിലൂടെ വിവര്ഗ്ഗ് വിവര്ഗ്ഗ് വിവര്ഗ്ഗ് വിവര്ഗ്ഗ് വിവര്ഗ്ഗ് നിര്ദ്ദ് വ	Not Added B: Not Arrelinable
Lab 803 (11/07)	Not Adged Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0204

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 04/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

R Number: R 91933

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Robert Moore

Site Name: San Onofre NPP

Date/Time Collected: 03/16/2012 12:15 Date/Time Received: 03/20/2012 10:30

Source Name: SONPP / March 2012

Sample Type: Seawater

Sample ID Sampling Point Method <u>Parameter</u> Result ± CE MDA95 <u>Units</u> N12-0204-001 SONGS D EPA 906.0 Tritium -90.0 ± 142 248 pCi/L

Precision criteria for these methods were determined to be acceptable.

^{2.} CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

Lab 803 (11/07)

	E ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	\$ 3-20-12 N12-0204
Richmond, CA 94804 5101-620-2930	Date & Time Sampled Serial Number
Attn: Sniyamaku Rubera	B 16 12 1215 R 91933
Collector Information	Reporting Information
Name: Robert Moore	Name: Calous Lieu
Dept./Branch: MBC Applied Environmental Science Address: 3000 Red Hull Ave. Costa Mesa, Ca	Strept/pranct: CODI 19716
12626 HULL AVE COSTO MESO, Ca	Address: PO Box 99-7414 ms 7610
Telephone No.: 1/4-850-4830	relephone No. 916-410-1940
Sample unounation	Billing Agency
System Name / Facility: SONGS	DWFOB() RHB D RWQCB() D DTSC
Safapling Point (s):	DWTPB 1 TOB DWR DCDFG
Sestem No.:	EMB Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
Drinking Water	Surface Water
Raw Water Treatment Plant (WTP	Distribution System Point of Use (POU)
Treated (circle one): Chlorinated / Chloraminated / Chlorine Di	oxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	☐ Milk ☐ Soil/Sediment
Starting:	Wipes □ Biota (Type):
Net (M³)	
☐ Air Charcoal Cartridge	Radon Canister
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	iced/Frozen: Other
☐ Field Measurement: mR/hr	Radiopuclida(a) if known
	radionideide(s), il kilowii.
☐ Rush/Priority (should be prearranged and have supervisory app	Radionuclide(s), if known:
Rush/Priority (should be preamanged and have supervisory app ANALYSIS REQUESTED (For questions, please call 510-620-291)	rd <mark>yal)</mark>
	rd/al)
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Gross Ber	indival) Di Gamma Scan
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Gross Ber	Gamma Scan GSC) NORM (Gamma)
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Beta	Gamma Scan GSC) NORM (Gamma) Isotopic Americium / Curium
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Carbon-1-	Gamma Scan GSC) NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Gross Alpha Total Uranium Total Radium Radium-226 Carbon-1	Gamma Scan GSC) NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Corporations, please call 510-620-291 Gross Ber Tritium (°I Carbon-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	Gamma Scan Gamma Scan GESC) NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium B9; 90 Isotopic Uranium
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radon-222 Other (Specify);	Gamma Scan GSC) NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radium-222 Strontium Other (Specify); CHAIN OF CUSTODY	Gamma Scan Gamma Scan GESC) NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium B9; 90 Isotopic Uranium
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radium-222 Radion-222 Narrie (Print)	Gamma Scan (SC)
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radion-222 Strontium Other (Specify); Date Name (Print) Name (Print) Name (Print)	Gamma Scan G(SC)
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radium-228 Redon-222 Strontium Other (Specify); Date Name (Print)	Gamma Scan (SC)
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radion-222 Strontium Other (Specify); Date Name (Print) Name (Print)	Gamma Scan (SC) NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium Isotopic Uranium Iron-55
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radium-222 Other (Specify); Time Custody Received Name (Print) Name (Print) Time Custody Received Organization	Gamma Scan (LSC)
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radium-222 Other (Specify); Time Custody Received Name (Print) Name (Print) Name (Print) Name (Print) Name (Print) Organization Radium-220 Organization Name (Print)	Gamma Scan (LSC)
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radon-222 Strontium Other (Specify); CHAIN OF CUSTODY 1. Date Name (Print) Time Custody Received Organization Name (Print) Name (Print)	Gamma Scan (LSC)
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radium-222 Other (Specify); Time Custody Received Name (Print) Name (Print) Name (Print) Name (Print) Name (Print) Organization Radium-220 Organization Name (Print)	Gamma Scan (LSC) NORM (Gamma) I Isotopic Americium / Curium I Isotopic Plutonium I Isotopic Thorium Isotopic Uranium Iron-55 Date Time Custody Released Date Date
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radion-222 Other (Specify); Time Custody Received Name (Print) Time Custody Received Name (Print) Time Custody Received ABORATORY REMARKS (Leave Blank)	Gamma Scan Gamma Scan ISC) NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium Isotopic Uranium Isotopic Uranium Iron-55
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radon-222 Other (Specify); Date Name (Print) Time Custody Received Rame (Print) Time Custody Received Organization ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt:	Gamma Scan (SC) NORM (Gamma) I Isotopic Americium / Curium I Isotopic Plutonium I Isotopic Thorium Isotopic Uranium Iron-55 Date Time Custody Released Date Time Custody Released Date Time Custody Released
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radium-228 Radion-222 Strontium Other (Specify); Date Name (Print) Time Custody Received Name (Print) Time Custody Received Organization Name (Print) Time Custody Received Organization ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Acceptable Broken Container	Gamma Scan NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium Isotopic Uranium Iron-55 Irme Custody Released Date Signature Time Custody Released Date Time Custody Released Date Time Custody Released
ANALYSIS REQUESTED (For questions, please call 510-620-291 Gross Alpha Total Uranium Total Radium Radium-226 Radium-228 Radon-222 Other (Specify); Date Name (Print) Time Custody Received Rame (Print) Time Custody Received Rame (Print) Time Custody Received Rame (Print) Time Custody Received Organization ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt:	Gamma Scan (CSC) NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium Isotopic Uranium Iron-55 Time Custody Released Date Signature Time Custody Released Date Time Custody Released



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0203

Analyst: Angela Tan

Analysis Approved By: Shivamalie Ruberu

Analysis Approval Date: 03/23/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capito! Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Robert Moore

Date/Time Collected: 03/16/2012 12:15 Date/Time Received: 03/20/2012 10:30

Site Name: San Onofre NPP

Source Name: SONPP / March 2012

R Number: R 91929

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0203-001	SONGS D	EPA 901.1	K-40	380 ± 21.3	79.9	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804 5(0 - 6/20 - 29/30)	3-20-12	N17-0202
1531367152911	, Date & Time Sampled	Serial Number
Attn Shiyamalie Rubera	3/14/12 12/5	⊥ R 91929 ∣
Collector Information	Reporting Information	
Name: Dept /Branch: noo	Name: Steve HSU	·
Dept./Branch: MBC Applied Environmental Supra Address: 3000 Red HW AVE Costa Mesa, Co	Dept./Branch: CDPH - RHB	7/21/2
	Address: PO BOX 99-74	IA TOSTUTO I
Telephone No.: 4 Sample Information		5-146
System Name / Facility:	Billing Agency	
Sampling Point (s):	D DWFOB() RHB D	RWQCB() DTSC DWR DCDFG
System No.:	□ EMB □ Other (Sp	
TYPE OF SAMPLE (Check all applicable boxes)		•
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment Plant (WTP)	Surface Water	☐ Wastewater
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	side / Ozonated / Perovisona / Elus	Point of Use (POU)
		ondated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater	☐ Sludge (Semi-solid Samples)
Finishing:	Milk	☐ Soil/Sediment
Starting:	Wipes	☐ Biota (Type):
Net (M³)	Radon Canister	Other:
☐ Air Charcoal Cartridge		
COMMENTS: (Cautions, etc.):		
☐ Field Treatment: Preservatives added:		And the same of th
		Other:
Rush/Priority (should be prearranged and have supervisory appro	Radionuclide(s), if known:	
	1	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	•	
☐ Gross Alpha ☐ Gross Beta	, January	Scan
☐ Total Uranium ☐ Total Beta (☐ Total Radium ☐ Triffium (☐ II)	- ····································	and the second s
a mount (1)	3	mericium / Curium
Carbon-14	☐ Isotopic P	
Li lodine-131		
- Coloradiro	, p .o-	ranium
CHAIN OF GUSTODY	☐ Iron-55	
1. 3/1//2 D/ 1//		
Date Name (Print)	1/1 1/10	3//6//2_ Date
Time Custody Received	Valent della	
2. 3/10/12 Jenny Smith	anal pre	Tirhe Custody Released
Date Name (Print)		Date 19(12
Time Custody Received Organization	Jeun 1	= 1200
3. <u>2.00-12 </u>	Signature	Time Custody Released
Date Name (Print)	0	Date
Time Could Deliver Del	Signature M. Q	le
	oliku tarai ≙	Time Custody Released
LABORATORY REMARKS (Leave Blank) A. Condition at Time of Receipt:	MR/HR	
Acceptable	Leaked in Transit	U Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled	J trisufficient Sample	- Inthrope Collemen
5. Preservatives/Carriers:		
Added While Sampling	Not Added	(1) Alas Annibardo



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0202

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 04/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith

Date/Time Collected: 03/16/2012 12:23 Date/Time Received: 03/20/2012 10:30

Site Name: San Onofre NPP

Source Name: SONPP / March 2012

R Number: R 91931

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0202-001	SONGS C	EPA 906.0	Tritium	-86.2 ± 142	248	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water. EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	/ <i>/</i> /			
				•
State of California Health and Welfare Agency				California Department of Public Health
Sanitation and Dadiction Labora	REQUEST FOR SAMPLI			
Sanitation and Radiation Labora 850 Marina Bay Parkway, G164	iones Branch	Date Rece		Lab No. (Leave Blank)
Richmond, CA 94804 50 - (o	20 - 2930		0-12	1117-0202
	malie Rubera	Date & Time S	ampled	Serial Number
Callegae Information		Reporting Informati	<u> 122.3 </u>	<u>R 91931</u>
Name: Jenny Smith		Name: Chene	Hen	
Address: 2000 Per hard	1 Enuronmental Scan	Dept./Branch: CD	PH-RHB	
Name: Jenny Smith Dept./Brafich: MBC Applica Address: 3000 Red-Hall Av Telephone No.: 114-850	6 COSTUNESTICA 4262	Sacra	19-74	14 ms 7610
Sample Information		Telephone No. A	mento ca	7940
System Name / Facility:	DNGS	4	KRHB □ R	WQCB() DTSC
Sampling Point (s):		DWTPB /	FDB Q	WR □ CDFG I
System No.:		DEMB C	Other (Speci	fy)
TYPE OF SAMPLE (Check all appli	cable boxes)	1		·
☐ Drinking Water ☐ ☐ Raw ☐	Groundwater	Surface Water		l Wastewater
_	Water Treatment Plant (WTP)	Distribution System	n 🗆	Doint of Hos /DOLD
Treated (circle one): Chlorinated			kizone / Fluorid	ated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Q ∽Seawater		Sludge (Semi-solid Samples)
Finishing:	The second secon	D Milk		Soil/Sediment
Starting: Net (M³)		☐ Wipes		Biota (Type):
☐ Air Charcoal Cartridge		Radon Canister	•	Other:
		3		
COMMENTS: (Cautions, etc.):				the said for the said said said the said said
☐ Field Treatment: Preservatives☐ Field Measurement:		ced/Frozen:		er:
	mR/hr	Radionuclide(s), if	known:	
Rush/Priority (should be prearran				
ANALYSIS REQUESTED (For quest				
☐ Gross Alpha ☐ Total Uranium	☐ Gross Beta	-		
☐ Total Radium	☐ Total Beta i			•
☐ Radium-226	Carbon-14	<u> </u>		ericium / Curium
☐ Radium-228	□ lodine-131			
Radon-222	☐ Strontium-8	Ţ.	Isotopic Tro	
Other (Specify);	Nickel-63	(l Iron-55	
1. 3/16 (12	0.1			3(14(1)
Date Name (Pi				J 3/10/12
	NAR-	600m		Date
2.	ion	Separate *	44	Time Custody Released
Date Name (Pr	int)	- V	i de Mij	Date
Time Custody Received Organizat	ion	Signature	·	<u> </u>
3. Date 3-20~(2. Name (Pr	{JP+	(*)		Time Custody Released
10:30	NUIDI B	19-1-	Tal. Ol.	Date
Time Custody Received Organizat	<u> </u>	Signature	- the state of the	Time Custody Released
ABORATORY REMARKS (Leave Bl	ank)	710 / -		
A. Condition at Time of Receipt: Acceptable	G Broken Container	MR/HR Leaked in Transit		
	Sample Not Cooled	Insufficient Sample	**	☐ Improper Container
Preservatives/Carriers: Added While Sampling	Added in Laboratory	1		



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0201

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/23/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith

Date/Time Collected: 03/16/2012 12:23 Date/Time Received: 03/20/2012 10:30

Site Name: San Onofre NPP

Source Name: SONPP / March 2012

R Number: R 91932

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0201-001	SONGS C	EPA 901.1	K-40	317 ± 21.6	79.9	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)					
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Lasye Blank)				
850 Marina Bay Parkway, G164	3-20-12 HIZ-0201				
Richmond, CA 94804 510 -620 - 2930	Date & Time Sampled Serial Number				
Attn: Sniyamake Ribera	3/16/12 1273 R 91932				
Collector Information	Reporting Information				
Name: \aiova I Comita	Mamor Caraca (Value de la Caraca de la Carac				
Dont Proport X v 2 ml X	Dept./Branch: CDPH-RHB Address: PO BOX 91-74H MS 7610 Sacramento Ca 95899				
Address: 3000 Red Him. Ave. Costs Misson	Address: PO BOX 91-7414 W/S 7(010)				
Address: 3000 Ped Hill. Auc. Costa Misa, es 7 2026 Telephone No.: 714-850-4830	Sacramento Ca 95899				
Sample Information	Billing Agency				
System Name / Facility: SONGS	£9				
Sampling Point (s):	D DWFOB() RHB D RWQCB() D DTSC DWFB D FDB D DWR D CDFG				
	☐ EMB ☐ Other (Specify)				
System No.:					
TYPE OF SAMPLE (Check all applicable boxes)					
☐ Drinking Water ☐ Groundwater	Surface Water				
☐ Raw ☐ Water Treatment Plant (WTP)					
☐ Treated (circle one): Chlornated / Chloraminated / Chlorine Did	xide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted				
☐ Air Filters Date/Time	Seawater				
Finishing:	Milk Soil/Sediment				
Starting:					
Net (M³)					
	Radon Canister				
Air Charcoal Cartridge					
COMMENTS: (Cautions, etc.):					
☐ Field Treatment: Preservatives added:	ced/Frozen: Other:				
☐ Field Measurement:mR/hr	Radionuclide(s), if known:				
Rush/Priority (should be prearranged and have supervisory appr	and the state of t				
ANALYSIS REQUESTED (For questions, please call 510-620-2911					
☐ Gross Alpha ☐ Gross Bet	2				
☐ Total Uranium ☐ Total Beta					
☐ Total Radium ☐ Tritium (³H					
☐ Radium-226 ☐ Carbon-14	The state of the s				
☐ Radium-228	—				
Radon-222 \ Strontium-	89, 90 🔲 Isotopic Uranium				
Other (Specify); Nickel-63	☐ Iron-55				
CHAIN OF CUSTODY	3119112				
3/16/12 tenny Smith	2/10/12				
Date Name (Print)	Date				
Time Custody Received Organization	Time Custody Released				
	Tarre Custody Released				
Date Name (Print)	Date				
Time Custody Received Organization	Signature Time Custody Released				
$\frac{3-20-10}{1.4}$	Fignature Time Custody Released				
Date Name (Print)	Date Date				
Time Custody Received Organization	Signature Time Custody Released				
	Observe and the control of the c				
ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt:	OIMR/HR -				
☐ Acceptable ☐ Broken Container	Leaked in Transit O Improper Container				
Holding Time Exceeded	U Leaked in Transit				
. Preservatives/Carriers:	<u>ૣૻ૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽૽</u>				
Added While Sampling	☐ Not Added ☐ Not Applicable				



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0200

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 04/02/2012

<u>Requestor</u>

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith

Date/Time Collected: 03/16/2012 12:32 Date/Time Received: 03/20/2012 10:30

Site Name: San Onofre NPP

Source Name: SONPP / March 2012

R Number: R 91940

Sample Type: Seawater

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N12-0200-001
 SONGS B
 EPA 906.0
 Tritium
 5.74 ± 145
 248
 pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)					
Sanitation and Radiation		D C	ate Receive	Xd	Lab No. (Leave Blank)
850 Marina Bay Parkway,	G164	3	20-1	2	N12-0200
510-620-2911	10-620-2930		& Time San		Serial Number
L Alth	Shiyamalle Rubera	2/16	دا	1232	R 91940
Collector Information _	_	Reporting I	nformatio	'n	1 31340
Name: Jenny	Smith	Name: 5h	eve H	υz	
Address: Occasion WBC W	pplyd Environmental Scien	<u>{</u> [Dept./Brancl	p: CD64	-6116	
92626	that he costamosa, ca	Maniese. P	O ROX	74-74 <i>i</i> 2	ms 7610
Telephoné No.: 714	·	Telephone N		unto Ca - 440-	- 1587H
Sample Information		Billing Age	псу	F-F1-/	
System Name / Facility: Sampling Point (s):	SONGS	DWFOB	() / ₹(RHB 🗆 F	RWQCB() DIDTSC
ounpang rome (o).	n	D DWTPB			WR CICDFG
System No.:	D	CHIMB		Other (Spec	ny)
TYPE OF SAMPLE (Check	k all applicable boxes)	i i			
☐ Drinking Water ☐ Raw	Groundwater	Surface V	Vater) Wastewater
	Water Treatment Plant (WTP)	Distribution	on System	Ε	Point of Use (POLI)
	hlorinated / Chloraminated / Chlorine Diox	ide / Ozonate	d / Peroxiz	tone / Fluorio	lated / Coagulated / pH Adjusted
Air Filters	Date/Time	Seawater			Sludge (Semi-solid Samples)
Finishing:		Milk			Soil/Sediment
	<u> </u>	🛱 Wipes		Ċ	Biota (Type):
Net (M³)		Radon Ca	nister		Other:
Air Charcoal Cartridge		(4) (1)			
COMMENTS: (Cautions, e	etc)	<u> </u>			
☐ Field Treatment: Pres		ced/Frozen:	* (4 -		The second secon
	· · · · · · · · · · · · · · · · · · ·		Ed-All ter	Oth	er:
	prearranged and have supervisory appro	∵. ∵r Kacionuci	lice(s), it ki	nown:	·
		<u> </u>	- · · 	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
	(For questions, please call 510-620-2911)	*:			• • • •
Gross Alpha	☐ Gross Beta	₽.	. •	Gamma Sca	n
☐ Total Uranium	☐ Total Beta (٥	NORM (Gar	nma)
☐ Total Radium	Trition (3H)				ericium / Curium
Radium-226	Carbon 14			Isotopic Plut	
☐ Radium-228 ☐ Radon-222	☐ lodine-131	1.		Isotopic Tho	
	Strontium-8	9, 90		Isotopic Ura	nium
Other (Specify);	□ Nickel-63		Q	Iron-55	alialia
CHAIN OF CUSTODY	Jehans C. Ha				142 3/14/12
Date	Name (Print)		1		Date
1737	- MRC		uh	~ .t	> IOOO
Time Clustody Received	Organization	Signature	7		Time Custody Released
Date	Name (Print)	Y			Date
Time Custody Received	Organization				_
3 2. 20012	i IA	Signature			Time Custody Released
Date /	Name (Print)				Date
Time Custody Received	Organization DURLB		ulore	ayy.ll	<u> </u>
· · · · · · · · · · · · · · · · · · ·		Signaturé		,	Time Custody Released
ABORATORY REMARKS Condition at Time of Rec	(Leave Blank)	MRI	40		보고 하다 그들은 형편이 말을
C Acceptable	Broken Container	Leaked in	Transit		☐ Improper Container
☐ Holding Time Exceeds	and the second of the contract of the second	1 Insufficien			☐ Improper Container
. Preservatives/Carriers:					
☐ Added While Sampling	9 C Added in Laboratory	Not Added	l. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		The street and will be a second



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0199

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/23/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith

Date/Time Collected: 03/16/2012 12:32 Date/Time Received: 03/20/2012 10:30

Site Name: San Onofre NPP

Source Name: SONPP / March 2012

R Number: R 91937

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0199-001	SONGS B	EPA 901.1	K-40	376 ± 18.4	62.2	pCi/L

^{1.} Precision criteria for these methods were determined to be acceptable.

^{2.} CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-800/4-80-032, August 1980 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)					
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)				
850 Marina Bay Parkway, G164 Richmond, CA 94804 510 - 620 - 2930	2-20-12 N12-0199				
510-620-2911 ALL	Date & Time Sampled Serial Number				
510-620-2911 Attn: Shiyamate Rubera	3/16/12 1232 R 91937				
Name: John Con the	Reporting Information				
Dept./Branch: MBC Applied Froutoning Som	Name: Steve HSV				
Dept./Branch: MBC Applied Environmental Special Address: 3000 Fea Hull Ave. Costa Mesa, Ca	Address: PO BOX 90-7/14 MS 7/010				
Telephone No.: 714-850 -4830	Manage Control TO / A CONTROL T				
Sample Information	Billing Agency				
System Name / Facility: Sampling Point (s):	DWFOB() XRHB RWQCB() DTSC				
Q	DWTPB COFG DWR CDFG				
System No.:	GI EMB				
TYPE OF SAMPLE (Check all applicable boxes)					
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment Plant (WTP)	Surface Water				
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	Distribution System				
☐ Air Filters Date/Time Finishing:	Seawater Sludge (Semi-solid Samples)				
Charling	Milk				
Net (M³)	Wipes Biota (Type):				
☐ Air Charcoal Cartridge	Radon Canister				
COMMENTS; (Cautions, etc.):					
- red reduient. Preservatives added:	Other:				
☐ Field Measurement:mR/hr	#PRADIONUCIIDE(s), If known:				
2 Residentially (should be preamanged and have supervisory appro-	(al)				
ANALYSIS REQUESTED (For questions, please call 510-620-2911)					
☐ Gross Alpha ☐ Gross Beta	Gamma Scan				
☐ Total Uranium ☐ Total Beta (SC) NORM (Gamma)				
☐ Total Radium ☐ Tritium (³H) ☐ Radium-226 ☐ Carbon-14	v				
_ Outpoil-14	- included including				
☐ Radium-228 ☐ Iodine-131 ☐ Radium-222 ☐ Strontium-89	☐ Isotopic Thorium				
Other (Specify); Nickel-63					
CHAIN OF CUSTODY	□ tron-55 3/19/12				
3/16/12 Jenny mith	JNS - [H				
Date Name (Print)	Date Date				
Time Custody Received Organization	Signature Time Custody Released				
Date Name (Print)					
Time Out of David David	·				
· <u>- 2.312(3</u> 2 - 1) [A	Signature Time Custody Released				
Date Name (Print)	Date				
	Signature Time Custorly Released				
ABORATORY REMARKS (Leave Slank)					
. Condition at Time of Receipt:	n MR/HR				
☐ Acceptable ☐ Broken Container ☐ Holding Time Exceeded ☐ Sample Not Cooled					
Preservatives/Carriers:) Insufficient Sample				
C) Added Minds Committee	Not Added □ Not Applicable				
The state of the s					



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0198

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 04/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

R Number: R 91935

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith

Site Name: San Onofre NPP

Date/Time Collected: 03/16/2012 12:15 Date/Time Received: 03/20/2012 10:30

Source Name: SONPP / March 2012

Sample Type: Seawater

Sample ID

Sampling Point

Method

Parameter

Result ± CE

MDA<u>95</u>

Units

N12-0198-001 SONGS A EPA 906.0 Tritium -68.9 ± 143 248 pCi/L

Precision criteria for these methods were determined to be acceptable

^{2.} CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

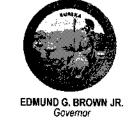
^{3.} MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

Finishing: Starting: Net (M³) Air Charcoal Cartridge COMMENTS: (Cautions, etc.): Field Treatment: Preservatives added: Rush/Priority (should be prearranged and have supervisory approval) ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Gross Beta Gross Alpha Gross Alpha Gross Alpha Gross Alpha Gross Alpha Gross Beta Gross Alpha Gross Alpha Gross Alpha Gross Alpha Gross Beta Gross Alpha Gross Alpha Gross Alpha Gross Alpha Gross Alpha Gross Beta Gross Alpha Gross Alpha Gross Beta Gross Alpha Gross Alpha Gross Beta Gros		REQUEST FOR SAMPLE	ANALYSIS (Radiocl	nemical)	
Richmond, CA 94804 510 - 620 - 2930 Date & Time Sampled Serial Number 510-620-2911 R 91935			Date Receiv	W	
Date & Time Sampled Serial Number Serial Num		G164 Y	3-20-	18	1117-0198
Collector Information Name:		510-620 -2930			
Name: Service HSU Dept/Branch: MBC Applied Environmental Sept/Branch: MBC Applied Environmental	Affn:S				ŶR 91935
Dept/Branch: MBC Applied Frouronmental Super/Branch: OPH - RHB Address: Do Box 49 - 7414 MS 7610 Address: Do		200			
Telephone No.:	Name: Phylin Style	Opposition to the last	Name: Stepe H	50 11 - 200	
Telephone No.:	Address: 2/// 12a/1	THE GO ENVIONMENTAL SO	Address: Do Boy	00-70	TIA MS TIAIN
Sample Information System Name / Facility: DWFOB () RHB RWQCB () DTSC DWFOB () DWFOB () DWFOB () DWFOB ()	92626		Sacran	hento.co	- Tas849
System Name / Facility: Sampling Point (s): DWFOB () D	relephone No.: 14	:850-48 30	relephone No.:	6-440	- 7940
Sampling Point (s): DWTPB		2 214 60	philing Agency	•	
System No.: Check all applicable boxes		32 W3 >		KMB UK	WQCB() LIDISC :
Drinking Water Groundwater Distribution System Point of Use (POU)		Δ		Other (Specif	v)
Drinking Water			: :		77
Raw Water Treatment Plant (WTP) Distribution System Point of Use (POU) Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxige / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adj Air Filters Date/Time Seawater Sludge (Semi-solid Samp Finishing: Wipes Biota (Type): Net (M³) Radon Canister Other: Air Charcoal Cartridge Point of Use (POU) Air Charcoal Cartridge Wipes Biota (Type): Field Treatment: Preservatives added: Other: Field Measurement: mR/hr Radionuclide(s), if known: Rush/Priority (should be prearranged and have supervisory approval) ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Gross Beta Gamma Scan Total Beta (ESC) NORM (Gamma) Total Radium Total Beta (ESC) Storpic Americium / Curium Radium-226 Garbon-14 Isotopic Plutonium Radium-228 Isotopic Thorium Isotopic Thorium Radium-228 Isotopic Uranium Isotopic Uranium Other (Specify); Nickel-63 Iron-55 CHAIN OF CUSTODY	•	,			
Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adj Air Filters		Groundwater	Surface Water		Wastewater (SOLI)
Air Filters Date/Time Seawater Sludge (Semi-solid Samplinishing: Milk Soli/Sediment Starting: Milk Starting: Milk Starting: Milk Starting: Milk Starting: Milk Starting: Milk Soli/Sediment Starting: Milk Starting:		, , ,	•		
Finishing: Soil/Sediment Starting: Wipes Biota (Type): Net (M²) Radon Canister COMMENTS: (Cautions, etc.): Field Treatment: Preservatives added: Rush/Priority (should be prearranged and have supervisory approval) ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Gross Beta Gamma Scan Total Uranium Gross Beta Gamma Scan Total Radium-226 NORM (Gamma) Radium-226 Strontium-89, 90 Isotopic Thorium Radon-222 Strontium-89, 90 Isotopic Uranium Other (Specify); Nickel-63 Iron-55	1 Heated (Cital Offe). Ci	mornated / Chrorattintated / Chrorine Diox	ibe / Ozonated / Perox	zone / Fluorida	ated / Coagulated / pH Adjusted
Starting:	Air Filters	Date/Time	Seawater	۵	Sludge (Semi-solid Samples)
Net (M³)	Finishing:		∰ ^N Milk		Soil/Sediment
Net (M³)	Starting:		Wipes		Biota (Type):
Air Charcoal Cartridge COMMENTS: (Cautions, etc.): Field Treatment: Preservatives added:	Net (M ³)		Radon Canister		
Field Treatment: Preservatives added:	Air Charcoal Cartridge		a): >-	_	
Field Treatment: Preservatives added:					
Field Measurement:	OMMENTS: (Cautions, e	tc.):			a da /del>
Rush/Priority (should be prearranged and have supervisory approval) ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Total Uranium Total Beta (LSC) NORM (Gamma) Total Radium Carbon-14 Radium-226 Radium-228 I lodine-131 Radium-222 Strontium-89, 90 I sotopic Uranium Other (Specify); Nickel-63	i Field Freatment: Pres	servatives added://	S .		er:
ANALYSIS REQUESTED (For questions, please call 510-620-2911) Gross Alpha Total Uranium Total Radium Carbon-14 Radium-228 Radon-222 Other (Specify); CHAIN OF CUSTODY Gross Beta Gross NORM (Gamma) I stotopic Americium / Curium I stotopic Plutonium Gross Beta Gross Gross Gross Gross Gross Gross Gross Gross Gross Gross Gross				known:	
Gross Alpha Gross Beta Gross Beta NORM (Gamma) Total Radium Tritium (³H) Radium-226 Radium-228 Radon-222 Strontium-89, 90 Rickel-63 Gamma Scan NORM (Gamma) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium Isotopic Thorium Isotopic Uranium Isotopic Uranium Isotopic Uranium	Rusn/Priority (should be	prearranged and have supervisory appro	(Pal)		
Total Uranium Total Beta (LSC) NORM (Gamma) Total Radium Radium-226 Carbon-14 Isotopic Americium / Curium Sotopic Plutonium Isotopic Thorium Isotopic Thorium Isotopic Thorium Isotopic Thorium Isotopic Uranium	NALYSIS REQUESTED	For questions, please call 510-620-2911)			
Total Radium Radium-226 Carbon-14 Isotopic Americium / Curium Isotopic Plutonium Isotopic Plutonium Isotopic Thorium Isotopic Uranium Isotopic Uranium Isotopic Uranium Isotopic Uranium Isotopic Thorium Isotopic Thorium	•		<u>-</u>	I Gamma Sca	n
Carbon-14 Isotopic Plutonium Isotopic Plutonium Isotopic Thorium Isotopic Thorium Isotopic Thorium Isotopic Thorium Isotopic Uranium Isotopic Uranium		_ `		NORM (Garr	nma)
Radium-228				I Isotopic Ame	ericium / Curium
Radon-222 Strontium-89, 90 Isotopic Uranium Other (Specify); Nickel-63 Iron-55 CHAIN OF CUSTODY				I Isotopic Plute	onium
Other (Specify); Dickel-63 Diron-55	 		1.	Isotopic Tho	rium
CHAIN OF CUSTODY SIGNATURE		🚬 🚨 Strontium-8	9, 90	I Isotopic Urar	nium 🐰
C 13	Other (Specify);	Nickel-63)	Iron-55	
010 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -) C 13		7,12.11,12	3((9)12
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1215 MARC		NABC	1 dans	()	Date
Time Custody Received Organization Signature Signature		Organization	Signeture		Time Custody Released
Date Name (Print)		Name (Print)	, • 🗸		Date
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ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt: Acceptable Broken Container Container Insufficient Sample Receivatives/Carriers:	Condition at Time of Rec Acceptable Holding Time Exceed	pelpt: G Broken Container			다 Improper Container



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0197

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 03/23/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith

Date/Time Collected: 03/16/2012 12:15 Date/Time Received: 03/20/2012 10:30

Site Name: San Onofre NPP

Source Name: SONPP / March 2012

R Number: R 91934

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	<u>MDA95</u>	<u>Units</u>
N12-0197-001	SONGS A	EPA 901.1	K-40	326 ± 17.9	63.1	pCi/L

^{1.} Precision criteria for these methods were determined to be acceptable.

^{2.} CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate

Reporting Information Name: Jency Smith Dept./Branch: MBC Applied Enveronmental Start Rept./Branch: CDPH RHB Address: 3000 Red Httl Ave. Costa Mesa Ca Address: Po Box 99 - 74 Httl Ms 76 16 16 Address: Po Box 99 - 74 Httl Ms 76 16 16 Address: Po Box 99 - 74 Httl Ms 76 16 Telephone No.: 14 - 850 - 4830 Telephone No.: 916 - 440 - 7440 Telephone No.: 916 - 440 Telephone No.: 91	ber 334
Richmond, CA 94804 510 - 620 - 2930	DTSC CDFG
Date & Time Sampled Serial Num Shiya malle Ribera 3 16 12 12 5 R 91 9 Collector Information Reporting Information Name: Jenny Smith Dept/Branch: MBC Applied Encuronmental Clore Rept/Branch: CDPH - RHB Address: 3000 Pea Httl Ave. Costa Mesa Ca Address: Po Box 99 - 14 Httl MS 76 10 Telephone No.: 14 - 850 - 4830 Telephone No.: 9 10 - 140 - 160 Telephone No.: 9 10	DTSC CDFG
Afth: Shiya malle Ribera 31612 1215 R 919 Collector Information Name: Jenny Smith Dept./Branch: MBC Applied Environmental Stort Bept./Branch: CDPH - RHB Address: 3000 Red Hull Ave. Costa Mesa Ca Address: Po Box 99 - 74 M MS 7610 Telephone No.: 714 - 850 - 4830 Telephone No.: 916 - 440 - 1940 Sample Information System Name / Facility: SONGS DWFOB () ARHB RWQCB () DWFOB () DWFOB () DWFOB () DWFOB () DWFOB () Other (Specify) TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Water Treatment Plant (WTP) Distribution System Depoint of Use (Poul Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxible / Ozonated / Peroxizone / Fluoridated / Coagulated / Air Filters Date/Time Seawater Distribution Sludge (Semi-soli	934 OTSC CDFG
Reporting Information Name: Jenny Smith Dept./Branch: MBC Applied Enveronmental Start Bept./Branch: CDPH - RHB Address: Bob Address: Bob Address: Po Box Aq - 74 kt MS 7/6/10 Telephone No.: 7/4 - 850 - 4830 Telephone No.: 7/4 - 850 Telephone No.: 7/4 - 850 - 4830 Telephone No.: 7/4 - 850 Telepho	O OTSC CDFG
Dept./Branch: MASC Applied Environmental confept./Branch: CDPH - RHB Address: 3000 Ped Httl Ave. Costa Mesa Ca Address: pp Box 99 - 1414 MS 7/6/10 Telephone No.: 7/4 - 850 - 4830 Telephone No.: 9/6 - 440 - 1444 MS 7/6/10 Sample Information System Name / Facility: SONGS Billing Agency DWFOB () RHB RWQCB () DWFOB ()	OTSC CDFG
Address: 300 Pe HUL Ave. Costa Mesa Ca Address: Po Box 99 - 74 H MS 7610 Telephone No.: 74 - 850 - 4830 Telephone No.: 916 - 440 - 1440 Telephone No.: 916 - 440 Teleph	OTSC CDFG
Telephone No.: 714 - 850 - 4830 Sample Information System Name / Facility: 50 NGS System No.: 50 DWFOB() 70 RHB RWQCB() 70 DWFOB() System No.: 74 - 850 - 4830 DWFOB() 70 RHB RWQCB() 70 DWFOB() DWFOB() 70 RWQCB() 70 DWFOB() DWFOB() 70 RHB RWGCB() 70 DWFOB()	OTSC CDFG
System Name / Facility: Sampling Point (s): System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Surface Water Wastewater Wastewater Water Treatment Plant (WTP) Distribution System Doint of Use (POUT) Treated (circle one): Chlorinated / Chlorine Dioxibe / Ozonated / Peroxizone / Fluoridated / Coagulated / Date/Time Seawater Sludge (Semi-soli	OTSC CDFG
System Name / Facility: Sampling Point (s): System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Surface Water Wastewater Wastewater Water Treatment Plant (WTP) Distribution System Doint of Use (POUT) Treated (circle one): Chlorinated / Chlorine Dioxibe / Ozonated / Peroxizone / Fluoridated / Coagulated / Date/Time Seawater Sludge (Semi-soli	OTSC CDFG
System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Surface Water Water Water Treatment Plant (WTP) Distribution System Point of Use (POL) Treated (circle one): Chlorinated / Chlorine Dioxipe / Ozonated / Peroxizone / Fluoridated / Coagulated / Air Filters Date/Time Seawater Sludge (Semi-soli	DDFG
System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Surface Water Wastewater Water Treatment Plant (WTP) Distribution System Point of Use (POUT Treated (circle one): Chlorinated / Chlorine Dioxibe / Ozonated / Peroxizone / Fluoridated / Coagulated / Air Filters Date/Time Seawater Sludge (Semi-soli	n
TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Surface Water Water Point of Use (POL) Treated (circle one): Chlorinated / Chlorine Dioxipe / Ozonated / Peroxizone / Fluoridated / Coagulated / Air Filters Date/Time Seawater Sludge (Semi-soli	<u></u>
□ Drinking Water □ Groundwater □ Surface Water □ Wastewater □ Point of Use (POUTreated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / □ Air Filters □ Date/Time □ Seawater □ Sludge (Semi-soli	<u></u>
□ Raw □ Water Treatment Plant (WTP) □ Distribution System □ Point of Use (POL Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / □ Air Filters □ Date/Time □ Seawater □ Sludge (Semi-soli	N
Treated (circle one): Chlorinated / Chlorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / Air Filters Date/Time Seawater Seawater Sludge (Semi-soli	IV.
☐ Air Filters ☐ Date/Time ☐ Seawater ☐ Sludge (Semi-soli	"
Einighting: (Semi-soli	pH Adjusted
Eininhine.	d Samples)
Finishing:	- campics)
Starting: Biota (Type):	
Net /143\	
Air Charcoal Cartridge	
	
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	<u> </u>
□ Field Measurement:mR/hr	<u> </u>
Rush/Priority (should be prearranged and have supervisory approprial)	- -
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
Gross Alpha Gamma Scan	7
Total Uranium Total Beta (LSC) NORM (Gamma)	
☐ Total Radium ☐ Tritium (³H) ☐ Isotopic Americium / Curium	
Radium-226	1
Radium-228	\mathcal{A}
☐ Radon-222 ☐ Strontium-89, 90 ☐ Isotopic Uranium	T.
Other (Specify); Nickel-63 Iron-55	
CHAIN OF CUSTODY 3/19/12	· · · · · · · · · · · · · · · · · · ·
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Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0129

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 04/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: James Nunez

Date/Time Collected: 02/15/2012 11:05 Date/Time Received: 02/16/2012 10:30

Site Name: San Onofre NPP

Source Name: SONPP / February 2012

R Number: R 92787

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA 95	<u>Units</u>
N12-0129-001	SONGS D	EPA 906.0	Tritium	49.8 ± 146	248	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance decay and loggouth, depending on the particular confidence level.

	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	2-16-12 1/12-1/09
Richmond, CA 94804 510-620-2911 510-620-2930	Date & Time Sampled Serial Number
Atto Shiyamalle Rubera	7/15/12 1105 R 92787
Collector information	Reporting Information
Name: James Nunez	Name: Steve HSU
Dept./Branch: MBC Applied Environmental Scence: Address: 3000 Red Hill Ave. Costa Mesa, Ca	Reddress: DS GS TO THE WG TILL
1 (27)0710	
Telephone No.: -714 - 850 -4830	Leiephone No.: QUI - 10 - 1020
1 T 1	Billing Agency
System Name / Facility: SO NGS	D DWFOB() O RHB D RWQCB() D DTSC D DWTPB D DWR D CDFG
Construing : Girls (G).	EMB C) Other (Specify)
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	Surface Water Wastewater
	☐ Distribution System ☐ Point of Use (POU) iĝe / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
<u> </u>	
· · · · · · · · · · · · · · · · · · ·	Seawater Sludge (Semi-solid Samples)
Finishing:	Milk
Starting:	₩ipes □ Biota (Type):
Net (M³)	Radon Canister
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	Sed/Frozen: Other:
	@ Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory appro	· · · · · · · · · · · · · · · · · · ·
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	· · · · · · · · · · · · · · · · · · ·
☐ Gross Alpha ☐ Gross Beta	I.
☐ Total Uranium ☐ Total Beta	
☐ Total Radium	
□ Radium-226 □ Carbon-14	to "
☐ Radium-228 ☐ Iodine-131	· ·
☐ Radon-222 ☐ Strontium-8	· · · · · · · · · · · · · · · · · · ·
☐ Other (Specify); ☐ Nickel-63	□ Iron-55
1. 2/15/12 James Nuncz	7/15/12
Date Name (Print)	Date
1105 Mrs. Nortical Environmental Since	Time Custody Released
Time Custody Received Organization 2. 7.1/5/1/2 Light Documents	Time Custody Released
2. 7/15/12 Wayne Dossett	Date
Time Custody Received Organization Applical Enters went	Signature Time Custody Released
3. 2-16-12 UA	Parietics / Table Custody Neiessed
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
	again ann an t-aige agus agus agus agus agus agus agus agus
LABORATORY REMARKS (Leave Blank) A. Condition at Time of Receipt:	O V M K/HK
Acceptable	2 Leaked in Transit U Improper Container
O Holding Time Exceeded O Sample Not Cooled	D Insufficient Sample
B. Preservatives/Carriers: D. Added While Sampling D. Added in Laboratory	C) Not Aliciaci



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0128

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/24/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

R Number: R 92786

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: James Nunez

Site Name: San Onofre NPP

Date/Time Collected: 02/15/2012 11:05 Date/Time Received: 02/16/2012 10:30

Source Name: SONPP / February 2012

Sample Type: Seawater

Sample ID Sampling Point Method **Parameter** Result ± CE MDA95 <u>Units</u> N12-0128-001 SONGS D EPA 901.1 K-40 333 ± 18.2 64.9 pCi/L

^{1.} Precision criteria for these methods were determined to be acceptable.

^{2.} CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors

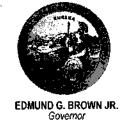
REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation Laboratories Branch	Date Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	2-16-12	N12-0128
Richmond, CA 94804 510-620-2911 50-620-2911	Date & Time Sampled	Serial Number
Alth: Shiyamalia Rubera	2/15/12 1105	R 92786
Collector Information	Reporting Information	
Name: James Nuncz	Name: Steine HSU	1
Address: 2000 Applied Environmental Scient	Medicass. So Bob H - KHB	, noc =1(-10
Dept./Branch: MBC Applied Environmental Science Address: 3000 Red Hill Ave Costa Misa, Ca Telephone No.: 74-850-4830	Sacraments of	A 115 1010
		7.940
15ample information	IRIIIIna Agency	
System Name / Facility: MAC Applied Environmental Sampling Point (s): 3000 Pack Hill As Contamos Conta	DOWFOB() ATRHB DI	RWQCB() DTSC
92426	DODOTPB CITOR CITO	OWR CDFG
(System No.: 714 950 1920 1945)	- Control (open	
TYPE OF SAMPLE (Check all applicable boxes)	<u>.</u> 	
Drinking Water Groundwater	Surface Water [☐ Wastewater
☐ Raw ☐ Water Treatment Plant (WTP)		Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Diox	de / Ozonated / Peroxizone / Fluori	dated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	⊋ Seawater 〔	3 Sludge (Semi-solid Samples)
Finishing:	<u>· </u>	3 Soil/Sediment
Starting:	ੁ ☑ Wipes ਹ	Biota (Type):
Net (M³)		Other:
☐ Air Charcoal Cartridge		
COMMENTS: (Cautions, etc.): Greatment: Preservatives added:	The second secon	<u> 1900 - Maria Barata, ang katampang kanang </u>
U Field Treatment: Preservatives added:	ced/Frozen:Oth	ner:
mR/hr	Radionuclide(s), if known:	and the second s
Rush/Priority (should be prearranged and have supervisory appro	(al)	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)		
☐ Gross Alpha ☐ Gross Beta	Gamma Sc	an
☐ Total Uranium ☐ Total Beta		
☐ Total Radium ☐ Tritium (³ H)	•	ericium / Curium
☐ Radium-226 ☐ Carbon-14	•	
☐ Radium-228 ☐ Iodine-131	Isotopic The	orium
☐ Radon-222 ☐ Strontium-8		
Other (Specify); Nickel-63	□ Iron-55	
CHAIN OF CUSTODY	······································	
1. 2(15)12 James Nume 7. Name (Print)		2/15/12
1105 MRC Applied Environmental Science	(-)	Date
Time Custody Received Organization	Signature	Time Custody Released
2. Date Name (Print)		74/ Date 2//5//2
1140 MBC Applied Embraneral Science	cos Mayor Day	THE 17-MO
Time Custodý Received Organization / 11 A	Signature	Time Custody Released
Date Name (Print)		Date
	Vilono Il Si	
Time Custody Received Organization	Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank)	OIMR/HR	
A. Condition at Time of Receipt: D. Broken Container		
D Holding Time Exceeded D Sample Not Cooled	D Leaked in Transit D Insufficient Sample	☐ Improper Container
B. Preservatives/Carriers:		
	entropy and the control of the contr	and the control of th

À



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0127

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 04/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Wayne Dossett

Date/Time Collected: 02/15/2012 08:31 Date/Time Received: 02/16/2012 10:30

Source Name: SONPP / February 2012

Site Name: San Onofre NPP R Number: R 92783

Sample Type: Seawater

 Sample ID
 Sampling Point
 Method
 Parameter
 Result ± CE
 MDA95
 Units

 N12-0127-001
 SONGS C
 EPA 906.0
 Tritium
 -17.2 ± 144
 248
 pCi/L

Precision criteria for these methods were determined to be acceptable.

^{2.} CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980

^{3.} MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	ANAL 1313 (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164 Richmond, CA 94804	2-16-12 112-0127
510-620-2911 40-620-2930	Date & Time Sampled Serial Number
Alth: Shiyamalia Rubera	Z/15/12 0831 R 92783
Collector Information	Reporting Information
Name: Wayne Dossett	Name: Stelle HSU Dept./Branch: Dept./Branch: Dept./Branch:



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0126

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/24/2012

Reguestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Wayne Dossett

Date/Time Collected: 02/15/2012 10:30 Date/Time Received: 02/16/2012 10:30

Site Name: San Onofre NPP

Source Name: SONPP / February 2012

R Number: R 92782

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA ₉₅	<u>Units</u>
N12-0126-001	SONGS C	EPA 901.1	K-40	309 ± 20.0	76.0	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQU	REQUEST FOR SAMPLE ANALYSIS (Radiochemical)					
Sanitation and Radiation Laboratories Bra	ınch		icelved	Lab No. (Leave Blank)		
850 Marina Bay Parkway, G164		2-16-	12	N12-0126		
Richmond, CA 94804 510-620-2911 510-620 - 2	<u> </u>	Date & Time		Serial Number		
Attn: Shiyamalie		2/15/17	0831	R 92782		
Collector Information	(1000.00	Reporting Inform		N SZIOZ		
Name: Wayne Dosse	. K	Mamo				
Dept./Branch: MRC Applied Enlivon	mental Sciences	Dept./Branch:	AH-KHB	<u> </u>		
Dept./Branch: MRC Applied Enturon Address: 3000 Red Hill Are. Cost	a mesa, ca	Address: PO Bo	X 49-741	4 1115 7610		
Telephone No.: 714 - 850 - 4830	·	Telephone No.: (1110-44A	79077		
Sample Information		Billing Agency	4 11/21	· · · · · · · · · · · · · · · · · · ·		
System Name / Facility: Sampling Point (s):	C 1	DWFOB()	YQ∠RHB □ F	RWQCB() DTSC		
Sampling Point (s):	,	O DWTPB		OWR DICDFG		
System No.:		D EMB }	Other (Spec	^{ify)}		
TYPE OF SAMPLE (Check all applicable box	es)	3 (.	· · · · · · · · · · · · · · · · · · ·			
☐ Drinking Water ☐ Groundy	vater	Surface Water	. г	1 Wastewater		
☐ Raw ☐ Water Ti	reatment Plant (WTP)	Distribution Sys	stem 🤇	Point of Use (POU)		
☐ Treated (circle one): Chlorinated / Chlorar	ninated / Chlorine Diox	de / Ozonated / Pe	eroxizone / Fluorio	dated / Coagulated / pH Adjusted		
		Seawater				
Cinichia	···	Milk		Sludge (Semi-solid Samples)		
Starting:		₹ ` <u>.</u>		Soil/Sediment		
	 _	☑ Wipes		Biota (Type):		
Net (M³)		Radon Canister	r	Other:		
☐ Air Charcoal Cartridge	9.	C				
COMMENTS: (Cautions, etc.):						
☐ Field Treatment: Preservatives added:	1 1	ced/Frozen:	Oth	er:		
☐ Field Measurement:		Radionuclide(s) if known:			
Rush/Priority (should be prearranged and I		val)	,,oun			
ANALYSIS REQUESTED (For questions, plea						
☐ Gross Alpha		*1	*			
☐ Total Uranium	☐ Gross Beta		Gamma Sc			
☐ Total Radium	☐ Total Beta		NORM (Gai	*		
☐ Radium-226	☐ Tritium (³H)			ericium / Curium		
□ Radium-228	Carbon-14		☐ Isotopic Plu			
☐ Radon-222	lodine-131		☐ Isotopic The			
Other (Specify);		9, 90	☐ Isotopic Ura	nium		
	□ Nickel-63	· · · · · · · · · · · · · · · · · · ·	☐ Iron-55			
CHAIN OF CUSTODY	Laccell "	et i	• .	- 11-/1-		
Date Name (P/int)	Boszraz .	/	/	Date		
Time Custody Received Organization	and Employment	SHEWES N	Vayno ()	DT17-00		
?		Signature		Time Custody Released		
Date Name (Print)	·			Date		
Time Custody Received Organization		A		<u> </u>		
3 7-11.12.	A	Signature		Time Custody Released		
Date Name (Print)		. ,		Date		
Time Custody Received Organization	WKCB	- Class	w. M. Ole			
		Signature 4000		Time Custody Released		
ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt:	4	9 OI MR/	LIO			
G Acceptable G Brok	en Container	Leaked in Trans		Ti Immana Auto		
		Insufficient Sam	ple	Improper Container		
. Preservatives/Carriers:			i et galet i di i esti i ti. Ni Maria i di i esti et e	H : 플랫폼 및 스탈트 (프린 노트)		
☐ Added While Sampling ☐ Adde	d in Laboratory	3 Not Added		D Not Applicable		



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0125

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 04/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Site Name: San Onofre NPP

Collector's Name: Wayne Dossett

Date/Time Collected: 02/15/2012 08:36 Date/Time Received: 02/16/2012 10:30

Source Name: SONPP / February 2012

R Number: R 92778

Sample Type: Seawater

Sampling Point Sample ID <u>Method</u> **Parameter** Result ± CE MDA95 Units N12-0125-001 SONGS B EPA 906.0 Tritium -28.7 ± 144 248 pCi/L

Precision criteria for these methods were determined to be acceptable.

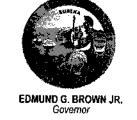
^{2.} CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and

		ANALYSIS (Radiochemical)
Sanitation and Radiation		Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway,	G164	7-16-12-1112-0125
Richmond, CA 94804 510-620-2911	10-620-2930	Date & Time Sampled Serial Number
A#n: S	Shiyamalie Rubera	2/15/17 0836 R 92778
Collector Information	1.4	Reporting Information
Name: Wayne	Dossett ,	Name: Steve HSU
Nec 7	polled Environmental Scene	Dept./Branch: CDPH-RHB Address: PD BOX 99-7414 MS 7610
G21021	HUY Ave. Costa Mesa, ca	
Telephone No.:	XS0-4830	relephone No.: alla-AAA - 194 A
Sample Information		Signing Agency
System Name / Facility: Sampling Point (s):	SONGS	DWFOB() ZERHB RWQCB() DTSC DWTPB DFDB DWR DCDFG
Camping Cont (s).	Ω	D DWTPB D FDB D DWR CDFG D EMB D Other (Specify)
System No.:	D .	d Other (Specify)
TYPE OF SAMPLE (Check		
Drinking Water	Groundwater	Surface Water Wastewater 🗀 🗀
Raw	Groundwater Water Treatment Plant (WTP)	Distribution System Point of Use (POU)
Treated (circle one): Cr	hiorinated / Chioraminated / Chiorine Diox	ide / Ozonated / Peroxizone / Fluoridated / Coagulated / pri Adjust
☐ Air Filters	Date/Time	Seawater Sludge (Semi-solid Samples
Finishing:		Milk 🔾 Soil/Sediment
∖ Starting:	<u></u>	Wipes □ Biota (Type):
Net (M ³)		Radon Canister
☐ Air Charcoal Cartridge		
COMMENTO, (O	A. V. 3	
COMMENTS: (Cautions, e	/(C.):	bed/Frozen: Other:
	servatives added:	ped/-rozen: Other:
		Radionuclide(s), if known:
Rush/Priority (should be	e prearranged and have supervisory appr	yal)
ANALYSIS REQUESTED ((For questions, please call 510-620-2911)	
Gross Alpha	☐ Gross Beta	Gamma Scan
☐ Total Uranium	☐ Total Beta	SC) U NORM (Gamma)
☐ Total Radium	Tritium (³ H)	
Radium-226	Carbon-14	_ :
□ Radium-228	☐ lodine-131	7
Radon-222	☐ Strontium-8	9, 90 🔲 Isotopic Uranium
Other (Specify);	Nickel-63	□
CHAIN OF CUSTODY	1.1.	31.1.
1. 7.//5//2	Name (Print)	1 Date - 15/17
0936	MRC Applied Englopmental	two Market Little Han
Time Custody Received	Organization (Signature Time bistody Released
2. Date	Name (Print)	Date
		Date
Time Custody Received 3. 2-16-12	Organization	Signature Time Custody Released
3. Date	Name (Print)	Date
10:30	DURLA	I Ledoria Wal.
Time Custody Received	Organization	Signature Time Custody Released
LABORATORY REMARKS	(Leave Blank) 4001 MR	14R
A. Condition at Time of Rec	SHDC.	프라마스 아무슨 그 가장하다 하다 그는 그들은 그리고 있는 그리고 있다.
O Holding Time Exceed	Broken Container Sample Not Cooled	Leaked in Transit Improper Container Insufficient Sample
B. Preservatives/Carriers;		
☐ Added While Samplin	C Added in Laboratory	The Man Addard



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0124

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/24/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Wayne Dossett

Date/Time Collected: 02/15/2012 08:36 Date/Time Received: 02/16/2012 10:30

Source Name: SONPP / February 2012

Site Name: San Onofre NPP R Number: R 92777

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0124-001	SONGS B	EPA 901.1	K-40	319 ± 17.9	63.9	pCi/L

^{1.} Precision criteria for these methods were determined to be acceptable.

^{2.} CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	1-16-12 N12-0124
Richmond, CA 94804 510-620-2911 510 - 620 - 2930	Date & Time Sampled Serial Number
510-620-2911 510-1020-2-700 AHn: Shiyamalia Rubera	2/15/12 0836 R 92777
Collector information	Reporting Information
Name: Wayne DOSSCAT	Name: Steve HSU
Dept./Branch: MBC Applied Enveronmental Scent	Dept./Branch: CDPH-RHB Address: PO Box. 99-7414 MS 7610
Address: 300 Red Hu Ave Costa Misa, Ca.	Sacramento Ca 95899
Telephone No.: -114 - 950 - 4880	relephone No. Citta-110-7010
Sample Information	Billing Agency
System Name / Facility: SonGS	DD DWFOB() STRHB DRWQCB() DTSC DWTPB DFDB DDWR DCDFG
2 -	DWTPB `Q FDB Q DWR Q CDFG Q EMB Q Other (Specify)
System No.:	1
TYPE OF SAMPLE (Check all applicable boxes)	D Marian
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	☐ Surface Water ☐ Wastewater ☐ Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine Dio	de / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	☐ Milk ☐ Soil/Sediment
Starting:	☐ Wipes ☐ Biota (Type):
Net (M³)	Radon Canister
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	ced/Frozen: Other:
	1
	PRAdionuclide(s), if known:
☐ Rush/Priority (should be prearranged and have supervisory appro	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	a re
Gross Alpha Gross Beta	*.
☐ Total Uranium ☐ Total Beta	
☐ Total Radium ☐ ☐ Tritium (3H)	
Carbon-14	•
☐ Radium-228 ☐ lodine-131	75 ·
☐ Radon-222 ☐ Strontium-6	Fig. 1. The state of the state
Other (Specify): Nickel-63	☐ Iron-55
CHAIN OF CUSTODY	01.5
1. Date Dassell Dassel	Date Date
Time Custody Received Organization	Signature July (LLS) Time Cultiday Released
2. Date Name (Print)	Date
Time Custody Received Organization	
3. <u>2-16-12</u> 11A	Signature Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank) A. Condition at Time of Receipt: Acceptable Holding Time Exceeded B. Preservatives/Carriers: Added While Sampling Added in Laboratory	



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0123

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 04/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Wayne Dossett

Site Name: San Onofre NPP

R Number: R 92776

Date/Time Collected: 02/15/2012 08:21 Date/Time Received: 02/16/2012 10:30

Source Name: SONPP / February 2012

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0123-001	SONGS A	EPA 906.0	Tritium	-24.9 ± 144	248	pCi/L

^{1.} Precision criteria for these methods were determined to be acceptable.

^{2.} GE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)	
Sanitation and Radiation	n Laboratories Branch	Date Received La	No. (Leave Blank)
850 Marina Bay Parkway,	G164	2-16-12 11/2	1-0123
510-620-2911	10-620-2930	Date & Time Sampled	Serial Number
Ally:	Shiyamalie Rubera	12/15/12 0821 F	92776
Collector Information		Reporting Information	
Name: Wayne I	sossert -	Name: Steve HSU	
Dept./Branch: MBC	Applied Enwronmonds	Dept./Branch: CDOH-RHB	·
Address: 3000 Re	a thu Ave Costa Musa	Address: Po Box 99-7414 M	S 7610
Telephone No.: -712	950-102n	Itelemento Ca 95	499
Sample Information		Name: Steve HSU Dept./Branch: CDPH-RHB Address: PO Box 99-7414 Ms Lelephone No.: 916-446-795 Billing Agency	\
poystern maine / nacility:		DWFOB() ARRHB RWQCB(
Sampling Point (s):	50NGS	☐ DWTPB ☐ FDB ☐ DWR ☐	/□ CDFG
System No.:	\mathbf{A}	☐ EMB ☐ Other (Specify)	
TYPE OF SAMPLE (Check	k all applicable boxes)		· · · .
☐ Drinking Water	☐ Groundwater	Surface Water	enter
□ Raw	Water Treatment Plant (WTP)	☐ Distribution System ☐ Point o	filse (POH)
☐ Treated (circle offe): C	hlorinated / Chloraminated / Chlorine Diox	de / Ozonated / Peroxizone / Fluoridated / Co	agulated / pH Adjusted
☐ Air Filters			(Semi-solid Samples)
Finishing:		Milk Soil/Se	
Starting:		<u> </u>	
Net (M³)			ype):
☐ Air Charcoal Cartridge		Radon Canister	·····
COMMENTS: (Cautions, e	etc.):		
	servatives added:	ced/Frozen: Other:	
	mR/hr / f	Radionuclide(s), if known:	
 Rush/Priority (should be 	prearranged and have supervisory appro	val)	
ANALYSIS REQUESTED ((For questions, please call 510-620-2911)	2	
Gross Alpha	☐ Gross Beta	· ·	
☐ Total Uranium	☐ Total Beta (
☐ Total Radium	∑ Tritium (³H)		Curiosas
☐ Radium-226	Carbon-14	1.	Gunum
☐ Radium-228	□ lodine-131	□ Isotopic Thorium	
☐ Radon-222	☐ Strontium-8		
Other (Specify);	Nickel-63	Iron-55	
CHAIN OF CUSTODY			
l			•
Date	Name (Print)	. Da	te
Time Custody Received	Organization	Grature Tig	e Custody Released
Date	Name (Print)	Da	
Time Custody Received	Organization	*	
1. 7-16-12	Organization I A	Signature	ne Custody Released
Date	Name (Print)	Dat Dat	te ·
Time Custody Received	Organization DWK15	Signature World W Tim	
ADODATONY DELLA MILLA			e Custody Released
ABORATORY REMARKS Condition at Time of Rec	(Leave Blank)	DAME (HE	
Q Acceptable	Broken Container	프라크 : ' ' - ' - ' - ' - ' - ' - ' - ' - ' -	roper Container
☐ Holding Time Exceeds		3 Insufficient Sample	Aper Contention
Preservatives/Carriers:			
 Added While Sampling 	Added in Laboratory	Not Added 12 No.	Anninghia



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0122

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/24/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Wayne Dossett

Site Name: San Onofre NPP

Source Name: SONPP / February 2012

R Number: R 92775

Sample Type: Seawater

Date/Time Collected; 02/15/2012 08:21 Date/Time Received: 02/16/2012 10:30

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0122-001	SONGS A	EPA 901.1	K-40	343 ± 22.0	80.2	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-500/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)				
Sanitation and Radiation		Date	Received	Lab No. (Leave Blank)
850 Marina Bay Parkway, G	3164	しょう-/	112	N12-0122
510-620-2911 510	0-620-2930	Çaté & Ti	me Sampled	Serial Number
Allm Sh	ijamalie Rubera	2/15/12	0821	R 92775
Collector Information	The state of the s	Reporting Info		
Name: Wayne I	oosse tt	Name: Steu	e Hsu	*
Dept./Branch: M. & A	ipplied Environmental S Hill Ave. Costa Meso	Dept./Branch:	DPH-RHB	
92426	Hill Ave. Costa Mesa	1, Callandiass 1-0 f	00x 99-741	4 MS (610)
	50 -4830	elephone No	ramento Ca	7940
Sample Information	<u> </u>	ASIRING Agency	·. ·	
System Name / Facility: Sampling Point (s):	SONGS 💎		RHB D F	RWQCB() DTSC C
Compling Form (a).		DWTPB	Other (Spec	OWR □ CDFG
System No.:	<u> </u>	E CIVID	- Oniei (opec	iry)
TYPE OF SAMPLE (Check	all applicable boxes)	₹. ₩.	*** 	
Drinking Water	Groundwater	Surface Water	er Ç	Wastewater
Raw	☐ Water Treatment Plant (Point of Use (POU)
ireated (circle one): Ch	lorinated / Chloraminated / Chlorir	ie Dioxide / Uzonated /	reroxizone / Fluorio	Dated / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	Seawater	C	Sludge (Semi-solid Samples)
Finishing:		Milk	7) \ C	3 Soil/Sediment
Chautin		Wipes	<i>!</i> :	Biota (Type):
Net (M ³)		Radon Canis		Other:
Air Charcoal Cartridge				
COMMENTS: (Cautions, et	in and the second of the secon			i kanala /del>
	ervatives added:			ner:
	mR/hr		(s), if known:	
☐ Rush/Priority (should be	prearranged and have supervisor	y approval)	·	
ANALYSIS REQUESTED (F	For questions, please call 510-620	-2911) 🖟	•	•
☐ Gross Alpha	☐ Gros	s Beta 🎚	Gamma Sc	an ,
☐ Total Uranium	☐ Tota	l Beta (ເຊື້SC)	NORM (Ga	mma)
☐ Total Radium	Tritio	ım (³H) 🖟	Isotopic An	nericium / Curium
Radium-226	☐ Cart	on-14 🍦	☐ Isotopic Plu	itonium
☐ Radium-228	☐ lodin	e-131 🚣	Isotopic The	orium
☐ Radon-222	□ Stror	ntium-89, 90	Isotopic Ura	anium
Other (Specify);	Nick	el-63 🕶	☐ fron-55	
CHAIN OF GUSTODY			···· •••····	_ 1 _ 1
1 2/5/12	Jame Dossett		11'	
Date	Name (Print) - MRC Applied For Viciniae	LI Tierra /	No. 6 2	Date
Time Custody Received	Organization	Signature	THE TANK	Time Custody Released
2. Date	Name (Print)		A	Date
		<u></u>		
3. Time Custody Received	Organization	Signature		Time Custody Released
3. Date	Name (Print)			Date
10:30	Dr. Dr. Dr. 12 L 13		long III al	Date
Time Custody Received	Organization	Signature	70	Time Custody Released
LABORATORY REMARKS	(Leave Blank)	a the Olim	0	
A. Condition at Time of Rece	eipt:	.01 MR/H		
Acceptable Holding Time Exceeds	Broken Container Sample Not Cooled	 Leaked in Transcript Insufficient S 		☐ Improper Container
 B. Preservatives/Carriers: Arided While Sempling 	O Added in Laboratory	□ Not Added		Ci Mat Kanijashia



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0046

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/17/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: James Nunez

Site Name: San Onofre NPP

Date/Time Collected: 01/16/2012 11:00 Date/Time Received: 01/17/2012 13:45

Source Name: SONPP / January 2012

R Number: R 92729

Sample Type: Seawater

Sample ID

Sampling Point

<u>Method</u>

<u>Parameter</u>

Result ± CE

MDA95

<u>Units</u>

SONGS D

305 ± 22.1

84.2

N12-0046-001

EPA 901.1

K-40

pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

· .		FOR SAMPLE	ANALY	SIS (Radio	ochemical)	
Sanitation and Radiation		-	1	Date Rec		Lab No. (Leave Blank)
850 Marina Bay Parkway, (Richmond, CA 94804		en e	1	1/17/	12	N12 7 0046
E40 820 2014	513-620-21			Date & Time	Sampled	Serial Number
岁4月.	Smithman (C Bill	ر. <u>د د د</u>	1 110	12	1100	R 92729
Collector Information	~		Reporti	ng Informa	ition	
Name: James No.	nez	-1,0 =	Name:	Steve	HSU	
Dept/Branch: MBC ACAddress: 3000 Ped	Spired Francisco		MADORESS	\$1. 13×x	- C/A -	414 ms 7610
1. 144 6V		MK W. C.	1	· Sacr	compression to a	74 115 1610 74 958999 1- 7940
	-850 -4890	- 100 m	Telepho	ne No.: (716-440	7940
Sample Information System Name / Facility:	Carico		Johnny ,	Maricy	. 1	
Sampling Point (s):	SONGS		D DWF	PB /		RWQCB() DTSC DWR DCDFG
Contam No.	D.,		EMB		Other (Spec	
System No.:	* *	· ·	‡			
TYPE OF SAMPLE (Check	,				,	
☐ Drinking Water ☐ Raw	GroundwaterWater Treatme	ent Plant (WTP)	Surfa	ice Water bution Syst		Wastewater
						Point of Use (POU) dated / Coagulated / pH Adjusted
			7		 	
☐ Air Filters	Date/Tin	ne	Seaw	rater		Sludge (Semi-solid Samples)
Finishing:			□ Milk		C	Soil/Sediment
Starting:]	☐ Wipe	s	ū	Biota (Type):
Net (M³)	 .		Rado	n Canister		Other:
☐ Air Charcoal Cartridge						
COMMENTS: (Cautions, et	dre V			The second second	; 4%;	
☐ Field Treatment: Pres			ced/Froz	-dn	Oth	
☐ Field Measurement:	· ·		ir ·			
Rush/Priority (should be		-	aval)	Huonae _{ter} ,	11 KIIVWII.	
ANALYSIS REQUESTED (F			4		<u> </u>	
	For questions, prease car		\$		<u></u>	
☐ Gross Alpha ☐ Totał Uranium		☐ Gross Beta	a de la companya de l		Gamma Sc	
☐ Total Oranium ☐ Total Radium	·	☐ Total Beta☐ Tritium (³ H)	*		NORM (Gar	•
□ Radium-226	1	Carbon-14	· .		•	nericium / Curium
☐ Radium-228	No.	lodine-131	2		☐ Isotopic Plu	
⊒ Radon-222		□ Strontium-8			☐ Isotopic The	
Other (Specify);	ش	□ Nickel-63)a, av		• .	INUM
CHAIN OF CUSTODY		W MONGITUD	is of		☐ Iron-55	
1116/12	Jumes Nivar		ii Nama		<i>j</i>	A. La
Date 1	Name (Print)		14]	- À	Date
Time Custody Received	Organization	admoule School	Simmotofa	h >	<u> </u>	
21/16/12*	_lean in	45	Gignature		.	Time Custody Released
Date/	Name (Print)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	" (n	(-)	Date
Time Custpdy Received	Organization A		Signature			Time Custody Released
1 12/12	UA		(/ (_	厂	
Date 13'-45	Name (Print)	RLB	4 /	79-100	un Mali	Date
Time Custody Received	Organization		Signature	- 100 m	12/11-mc	Time Custody Released
ABORATORY REMARKS	A acce Diamin		<u> </u>	4 /		13110 000001 10100000
Condition at Time of Reco	(Leave Diank)	50	:01	UK/I	1R	
Acceptable Holding Time Excepte	☐ Broken Con			ed in Transit		Improper Container
송하다 나는 경쟁 그릇 없이 함께	ed 💹 🖸 Sample Not	Cooled	la insur	ficient Samp		
. Preservatives/Cerriera: ☐ Added White Sampling	o □ Added in La	deninda, p	ED Not 4		等的高速 的名	
- Lil FURNISH BELLINGS STREET	All Managers are	ANGEORGE	File Burne e		The Association of the	and the first of the contract



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0047

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/13/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: James Nunez

Date/Time Collected: 01/16/2012 12:00 Date/Time Received: 01/17/2012 13:45

Source Name: SONPP / January 2012

Site Name: San Onofre NPP R Number: R 92730

Sample Type: Seawater

Sample ID

Sampling Point

Method <u>Parameter</u> Result ± CE MDA95 Units N12-0047-001 SONGS D EPA 906.0 Tritium 101 ± 166 282 pCi/L

Precision criteria for these methods were determined to be acceptable.

^{2.} CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)				
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)			
850 Marina Bay Parkway, G164	1/17/12 N12-0047			
Richmond, CA 94804 (5.0 -(-2) - (7(15))	Date & Time Sampled Serial Number			
510-620-2911 Allin Sin January Karris	1 1 100 R 92730			
Collector Information	Reporting Information			
1				
Name: James Nove > Dept./Branch: MBC Applied Financipalise Address: 3000 Red Hill Ave. Costa Mesa, a	Dept./Branch: CDPH-RHB			
Address: 3000 Red Hill Ave. Costa Mesa of	Address: PO PSOX 99-7414 MS 7610			
9 2 10 2 10 Telephone No.: 42 - 850 - 4830				
Sample Information	Billing Agency			
System Name / Facility:	DWFOB() A RHB RWQCB() DTSC			
Sampling Point (s):	D DWTPB D FDB D DWR CDFG			
System No.:	EMB Other (Specify)			
TYPE OF SAMPLE (Check all applicable boxes)				
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (W	TP) D Surface Water			
	Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted			
	A Diagram of Contract of Contr			
☐ Air Filters Date/Time	Seawater			
Finishing:	☐ Milk ☐ Soil/Sediment			
Starting:	D Wipes □ Biota (Type):			
Net (M ³)	Radon Canister			
☐ Air Charcoal Cartridge				
COMMENTS: (Cautions, etc.):				
☐ Field Treatment: Preservatives added:	ced/Frozen: Other:			
□ Field Measurement:mR/hr	Radionuclide(s), if known:			
 Rush/Priority (should be prearranged and have supervisory a 	approval)			
ANALYSIS REQUESTED (For questions, please call 510-620-2	2911)			
☐ Gross Alpha ☐ Gross	Beta Gamma Scan			
☐ Total Uranium ☐ Total B	Beta (LSC)			
☐ Total Radium ☐ Tritium				
☐ Radium-226 ☐ Carbon	, ,,			
☐ Radium-228 ☐ Iodine-	1 1 g = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
☐ Radon-222 ☐ Strontin	ium-89, 90 🔲 Isotopic Uranium			
Other (Specify); Nickel-				
CHAIN OF CUSTODY				
1. 1/16/12 James Nuter	1/1/12			
Date Name (Print)	Date			
Time Custody Reserved Organization	Signature Time Ustody Released			
2				
Date Name (Print)	Date			
Time Custody Received Organization	Signature Time Custody Released			
3(1)2()A				
Name (Print)	Date Date			
Time Custody Received Organization	Signature Time Custody Released			
ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt;	0.01 NR/HR			
Acceptable	☐ Leaked in Transit ☐ Improper Container			
☐ Holding Time Exceeded ☐ Sample Not Cooled	G Insufficient Sample			
	医环状性畸形 我们一点,只要只要没有我们就不是一个人,我们们还不是一个人的人,我们就不是一个人,不是不是一个人			
Preservatives/Carriers: Added White Sampling	kki ji bara 1911 - Haribarah kalendari 1921 - Haribarah 1921 - Haribarah 1921 - Haribarah 1921 - Haribarah 192			



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0043

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith

Site Name: San Onofre NPP

R Number: R 92727

Date/Time Collected: 01/16/2012 08:53 Date/Time Received: 01/17/2012 13:45

Source Name: SONPP / January 2012

Sample Type: Seawater

Sample ID

Sampling Point

Parameter

<u>Method</u> Result ± CE MDA95 **Units** N12-0043-001 SONGS C EPA 901.1 K-40 329 ± 17.3 59.2 pCi/L

Precision criteria for these methods were determined to be acceptable.

^{2.} CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. £LD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

	REQUEST FOR SAM	PLEANALY	SIS (Radiochemical	l)	
Sanitation and Radiation	n Laboratories Branch	1 4 4 4	Date Received		Lab No. (Leave Blank)
850 Marina Bay Parkway, Richmond, CA 94804			117/12	Λ	112-0042
540 620 2044	JED-620-2930 - 1		Date & Time Sampled		Serial Number
,2 (11 ·	redunded Komov .	1/4	112 085	ર	R 92727
Collector Information		Reporti	ng Information		<u> </u>
Name: Enny Sm	vith.	Name:	Steve Ilsu		¥
Address: 2 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	phlied Environmental Sc	10-10 Dept./Br	anch: CDPH - R	(HB	- Lunga
92626	HILL AVE COSTA Mesa,		LO ROX CLA	7414	m31/1610
TOTAL MONEY	850-4430	Ser elepho	POBOX OFF	40 = 7	140
Sample Information System Name / Facility:	Cario		rgency :		:
Sampling Point (s):	Songs	D DWF		☐ RWQ(☐ DWR	
		EMB	Other (□ CDFG
System No.:					
TYPE OF SAMPLE (Check	, , ,				
☐ Drinking Water ☐ ☐ Raw	☐ Groundwater ☐ Water Treatment Plant (W	Surfac	ce Water		stewater
	hlorinated / Chloraminated / Chlorine	Diovide / Ozo	oution System	Pol Kranska ut	int of Use (POU)
			rateu / Feluxizone / F	luoridated	/ Coagulated / pH Adjusted
☐ Air Filters -	Date/Time	Seaw	ater	🔲 Slu	dge (Semi-solid Samples)
Finishing:		Milk			VSediment ***
	<u> </u>	Wipes	•	☐ Bio	ta (Type):
Net (M ³)		Rador	n Canister		er:
Air Charcoal Cartridge					
COMMENTS: (Cautions, e	stc.):		ė.		
☐ Field Treatment: Pres	servatives added:	/ced/Froz	en:	Other:	<u> </u>
	mR/hr		ruclide(s), if known:		
	preamanged and have supervisory a	ifinméal)	raciac(s), ii kilowii.		
	For questions, please call 510-620-2	Tr. Victoria			
Gross Alpha		Ž.			
Total Uranium	☐ Gross I		Gamm		
Total Radium	☐ Tritium	leta (ISC)		(Gamma)	
Radium-226	Carbon	37			m / Curium
Radium-228	□ lodine-	· · · · · · · · · · · · · · · · · · ·		c Plutoniur	n
Radon-222		ım-89, 90	☐ Isotopi ☐ Isotopi	c rnonum c Uranium	•
Other (Specify);	Dickel-t	ĸ.	lron-55		
HAIN OF CUSTODY	110001	~	1011-55) 	
1/11/12	Long Smith		April 1		1/2 1/2
Date C	Name (Print)	by Small S		•	Date
Time Custody Received	Organization	Signature	JUA J	<u>~~</u>	700
Dota	A CONTRACTOR OF THE PARTY OF TH		. () *	,	Time Castody Released
Date	Name (Print)			17	Date
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Date 1-17-12	Name (Print)		.· .		
13:45	DUNIR	1	JalonoW.	Oli-	Date
Time Custody Received	Organization	Signature	ALLED VERLY VI		Time Custody Released
ABORÁTORY REMARKS	(Leave Blank)	7 ± A	110/1.10		100000
Condition at Time of Rec	elpt:	50.01	MK/TK		
□ Acceptable □ Holding Time Exceeds	Broken Container Garnple Not Cooled		d in Transit		Improper Container
Preservatives/Carriers:	- verilino inot consti	Insuffi	cient Sample	Halifi Elektri Talkada	
D Added While Sampling	9 Cli Added in Laboratory	D Not A			



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0045

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/13/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith Site Name: San Onofre NPP

Date/Time Collected: 01/16/2012 08:53 Date/Time Received: 01/17/2012 13:45

Source Name: SONPP / January 2012

R Number: R 92728

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0045-001	SONGS C	EPA 906.0	Tritium	-42.9 ± 163	282	pCi/L

Precision criteria for these methods were determined to be acceptable.

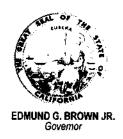
CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	11712 112-0045
Richmond, CA 94804 510-620-2911	Date & Time Sampled Serial Number
Alla Sheprogla Report	1/6/12 0853 R 92728
Collector Information	Reporting Information
Name: tenny Smith	Name: Steve HSU
Address: 3000 Topply d Environment Science	Spepti/Branch: CIDPIT - KITB
Dept./Branch: MBC Applied Environmental Scient Address: 3000 Red Hill Ave. Costa Me 921026	\$6 12 ments 6 95899
[Telephone No.: 14 -250 -4330	relephone Not: GIA 2010 - TGAA
Sample Information System Name / Facility: SONGS	Billing Agency
Sampling Point (s):	D DWFOB() D RHB D RWQCB() D DTSC D DWTPB D FDB D DWR D CDFG
	DUDWR CDFG CEMB COTON
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	Surface Water
	Distribution System Di Point of Use (POU) De / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
	po / Ozonated / Feroxizone / Fluoridated / Coagulaied / pri Adjusted
☐ Air Filters ☐ Date/Time	Sludge (Semi-solid Samples)
Finishing:	☐ Milk ☐ Soil/Sediment
Starting:	☐ Wipes ☐ Biota (Type):
Net (M ³)	Radon Canister
☐ Air Charcoal Cartridge	
COMMENTS. (Carrier of)	
COMMENTS: (Castions, etc.): ☐ Field Treatment: Preservatives added:	
<u></u>	ped/Frozen: Other:
	Д Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory appro	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
☐ Gross Alpha ☐ Gross Beta	
☐ Total Uranium ☐ Total Beta	7; · · · · · · · · · · · · · · · · · · ·
☐ Total Radium Tritium (³H)	isotopic Americium / Curium
☐ Radium-226 ☐ Carbon-14	□ Isotopic Plutonium
☐ Radium-228 ☐ lodine-131	— isotopia inoitain
☐ Radon-222 ☐ Strontium-8	
Other (Specify);	iron-55
CHAIN OF CUSTODY	
1. Date Name (Print)	Date 12
<u> </u>	1700 Line 1700
Time Custody Received Organization 2.	Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization	
A = 112	Signature Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization	Coulona M. Oli.
	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank) 2 0.01	NR/HR
Acceptable D Acceptable D Broken Container	☐ Leaked in Transif ☐ Improper Container
□ Holding Time Exceeded □ Sample Not Cooled	Insufficient Sample
Preservatives/Carriers:	
Added While Sampling Added in Laboratory	The Adol Adding



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0041

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith

Date/Time Collected: 01/16/2012 09:10 Date/Time Received: 01/17/2012 13:45

Site Name: San Onofre NPP

Source Name: SONPP / January 2012

R Number: R 92723

Sample Type: Seawater

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0041-001	SONGS B	EPA 901.1	K-40	305 ± 22.7	86.9	pCi/L

Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

[.] Precision criteria for these methods were determined to be acceptable.

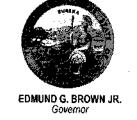
CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and

REQUEST FOR SAMP	LE ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	117/12 112-0041
Richmond, CA 94804 50 - 20150 - 20150	Date & Time Sampled Serial Number
Pull Shill mark Bridge	1/16/12 0910 R 92723
Collector information	Reporting Information
Name: Jenny Smith	Name: Steve HSU
Dept/Branch: MBC Applied Environmental Sci Address: 3000 Red Hill Ave. Costa Mesa, Co 92026 Telephone No. 714 Occo 4830	en Dept/Branch: COPH - RHB
Address: 3000 Red Hill Ave. Coster Mesc., C	a Address: PO Box 99-7414 MS 7610
Telephone No.: 714-350 - 4830	Telephone No.: 916 - 240 - 7940
Sample Information	Billing Agency
System Name / Facility: Sampling Point (s):	DWFOB() DCRHB DRWQCB() DTSC
Sampling Point (s):	D DWTPB D FDB D DWR D CDFG
System No.:	☐ EMB ☐ Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	2
☐ Drinking Water ☐ Groundwater	☐ Surface Water ☐ Wastewater
□ Raw □ Water Treatment Plant (WTI	
Treated (circle one): Chlorinated / Chloraminated / Chlorine D	Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	☑ Milk ☐ Soil/Sediment
Starting:	☐ Wipes ☐ Biota (Type):
Net (M³)	
☐ Air Charcoal Cartridge	Radon Canister
S All Charcoal Cardioge	
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	tged/Frozen: Other:
☐ Field Measurement:mR/hr	Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory ap	W)
ANALYSIS REQUESTED (For questions, please call 510-620-29	11) \$
☐ Gross Alpha ☐ Gross 8	
☐ Total Uranium ☐ Total Be	
☐ Total Radium ☐ Tritium (
☐ Radium-226 ☐ Carbon-	
☐ Radium-228 ☐ lodine-1	
☐ Radon-222 ☐ Strontiur	the state of the s
Other (Specify); Q Nickel-6:	**
CHAIN OF CUSTODY	
1. Illi lis. Jenny Smith	1/4 (12
Date Name (Print)	Date
Time Custody Received Organization	Signatule Time Custody Released
2.	Signatule Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
3	
Date Name (Print)	19 The Date Date
Time Custody Received Organization	Signature Time Custody Released
ABORATORY REMARKS (Leave Blank) Condition at Time of Receipt:	€0.01 MR/HR
Acceptable	Leaked in Transit
Q Holding Time Exceeded Q Sample Not Cooled	O Insufficient Sample
Preservatives/Carriers: ☐ Added While Sampling ☐ Added in Laboratory	
☐ Added While Sampling ☐ Added in Laboratory	☐ Not Added ☐ Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0042

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/13/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith Site Name: San Onofre NPP

Date/Time Collected: 01/16/2012 09:10 Date/Time Received: 01/17/2012 13:45

Source Name: SONPP / January 2012

R Number: R 92724

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0042-001	SONGS B	EPA 906.0	Tritium	137 ± 167	282	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and

REQUEST FOR SAMPLE	ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Dute Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	117/12 112-0042
Richmond, CA 94804 5(0 = (20 - 293) 510-620-2911	Date & Time Sampled Serial Number
510-620-2911 Alter Shings made & Roberts	116/12 0910 R 92724
Collector Information	Reporting Information
Name: Jenny Smith Dept. Branch: MBC Applied Enuronmental Science Address: 3000 Red Hill Ave. Costa Mesa, Ca 72626	Name: Steve H50
Dept. Branch: MBC Applied Environmental Science	Address: PO BOX CG-7414 MS 7610
92626 Red Hill Ave. Costa Mesa, Ca	Siciamento, Ca 95899 .
Telephone No.: 114 - 850 - 48 50	19 cicphone (40 C1115 - 4417) - 10 40
Sample Information	Billing Agency DWFOB() SPRHB DRWQCB() DTSC
System Name / Facility: Sampling Point (s):	D DWFOB() D FNB D RWQCB() D DTSC D DWTPB D FDB D DWR D CDFG
12	EMB Other (Specify)
System No.:	<u>.</u>
TYPE OF SAMPLE (Check all applicable boxes)	<u></u>
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WTP)	☐ Surface Water ☐ Wastewater ☐ Distribution System ☐ Point of Use (POU)
	ide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	Milk
Starting:	☐ Wipes ☐ Biota (Type):
Net (M ³)	Radon Canister
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	ced/Frozen: Other:
	Radionuclide(s), if known:
☐ Rush/Priority (should be prearranged and have supervisory appre	
ANALYSIS REQUESTED (For questions, please call 510-620-2911)	
Gross Alpha	
☐ Total Uranium ☐ Total Beta	4
☐ Total Radium ☐ Tritium (³H	
☐ Radium-226 ☐ Carbon-14	· file
☐ Radium-228 ☐ Iodine-131	Isotopic Thorium
□ Radon-222 □ Strontium-	
☐ Other (Specify); ☐ Nickel-63	☐ fron-55
CHAIN OF CUSTODY	
1. Maliz chony mith	1/16/12
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
2. No. (Deta)	Date
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
3. 1-17-12 Name (Print)	Date
12:45 DINKLB	A) whomas Malle
Time Custody Received Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank) 40	TIMETHR
A. Condition at Time of Receipt:	[1926년 - 18] 사용자이어와 전기상에 발발된 모양된다고 된다. Head State (1928년 1928년 1927년 1월 18일 등 1927년 18일 대한 1928년 19
Q Acceptable Q Broken Container Q Holding Time Exceeded Q Sample Not Cooled	Leaked in Transit Insufficient Sample
B. Precervatives/Carriers:	
☐ Added While Sampling ☐ Added in Laboratory	O Not Added O Not Applicable

Lab 803 (11/07)



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0039

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/02/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith

Date/Time Collected: 01/16/2012 09:01 Date/Time Received: 01/17/2012 13:45

Site Name: San Onofre NPP

Source Name: SONPP / January 2012

R Number: R 92721

Sample ID	Sampling Point	<u>Method</u>	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0039-001	SONGS A	EPA 901.1	K-40	334 ± 22.7	83.9	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-800/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

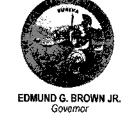
Lab 803 (11/07)

	REQUEST FOR SAMPLE	ANALYSIS (Radio	chemical)	
Sanitation and Radiation L	aboratories Branch	Date Reco	ived	Lab No. (Leave Blank)
850 Marina Bay Parkway, G1	64	1 17/12	2	N17-1039
Richmond, CA 94804 510-620-2911		Date & Time S		Serial Number
AHHE!	Augustalia Kabera	1/16/12	0901	R 92721
Collector Information		Reporting Informati	ion	11 32 123
Name: Jenny Smi	HO	Name: Steve 1	HSV	
Address: 3000 12-416	plied Environmental Sie Il Ave. Costa Mesa, Ca	Dept./Branch:	DH - KHB	
92666		Address: POBO	(CTC1 - 741	4 MS 7610
Telephone No.: 714 - 85	0 - 4830	prelephone No.: 24	remo, CA	7040
Sample Information System Name / Facility:		Bining Agency	1 Contract of 1	
Sampling Point (s):	SONGS	D DWFOB()	RHB DR	
	A		□`FDB □ D □ Other (Speci	
System No.:		\$	- Other (Opeci	
TYPE OF SAMPLE (Check at	l applicable boxes)	4. The second se		* · · ·
☐ Drinking Water ☐ Raw	Groundwater	Surface Water	,	Wastewater
	☐ Water Treatment Plant (WTP)	Distribution Syste	em 🗆	Point of Use (POU)
Treated (drue one). Chibi	rinated / Chloraminated / Chlorine Diox	Oge / Ozonated / Pero	oxizone / Fluorid	ated / Coagulated / pH Adjusted
□ Air Filters	Date/Time	Seawater		Sludge (Semi-solid Samples)
Finishing:		Milk		Soil/Sediment
Starting:		Wipes		Biota (Type):
Net (M³)		Radon Canister		Other:
Air Charcoal Cartridge			,	Other.
	in the second	7	· · · · · · · · · · · · · · · · · · ·	·
OMMENTS: (Cautions, etc.)				en e
Present: Present		Ced/Frozen:		er:
	mR/hr	Radionuclide(s), i	f known:	
Rush/Priority (should be pr	earranged and have supervisory appro	real)		
NALÝSIS REQUESTED (For	questions, please call 510-620-2911)	16.		
Gross Alpha	☐ Gross Beta	*	Gamma Sca	n
Total Uranium	☐ Total Beta (.¥	NORM (Gan	
Total Radium	☐ Tritium (³ H)	3 .		ericium / Curium
Radium-226	☐ Carbon-14	Z.	☐ Isotopic Plut	£ .
Radium-228	☐ lodine-131	z,·	Isotopic Tho	
Radon-222	Strontium-8		lsotopic Urai	
Other (Specify);	D Nickel-63	} · (☐ Iron-55	
HAIN OF CUSTODY				
D46/12	Jenny Smith			1/40/12
<u> </u>	1/1/2/C	(2)	() ,	Date
	rganization	Signature		Time Custody Released
	arne (Print)		•	<u> </u>
	- International Control of the Contr	·. :	•	Date
Time Custody Received Or	ganization	Signature	···	Time Custody Released
Date 117/12 Na	ame (Print)	umaa u		
2:45	DUIRI B	· .		Date
Time Custody Received Or	ganization	Signature		Time Custody Released
ABORATORY REMARKS (Le	ave Blank)	1. 1.101.10		
Condition at Time of Receipt		11 MR/HR		
☐ Acceptable ☐ Holding Time Exceeded		 Leaked in Transit Insufficient Sample 		☐ Improper Container
Preservatives/Carriers:		- monucian oampie		
U Added White Sampling	Ul Added in Laboratory	Not Added		in var distriction in the second seco
医马克勒氏性动物 医抗原性 医甲基二异苯酚	and the contraction of the contr			Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. N12-0040

Analyst: Sony Cai

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 02/13/2012

Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

Site and Sample Information

Collector's Name: Jenny Smith

Date/Time Collected: 01/16/2012 09:01 Date/Time Received: 01/17/2012 13:45

Source Name: SONPP / January 2012

Site Name: San Onofre NPP R Number: R 92722

Sample ID	Sampling Point	Method	<u>Parameter</u>	Result ± CE	MDA95	<u>Units</u>
N12-0040-001	SONGS A	EPA 906.0	Tritium	10.7 ± 164	282	pCi/L

Precision criteria for these methods were determined to be acceptable.

CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and

REQUEST FOR SAMP	PLE ANALYSIS (Radiochemical)
Sanitation and Radiation Laboratories Branch	Date Received Lab No. (Leave Blank)
850 Marina Bay Parkway, G164	1117/12 N12-0040
Richmond, CA 94804 (515 - 625) - 2(15)	Serial Number Sampled Serial Number
510-620-2911 Aita: Shipanide Robert	1/16/12 0901 R 92722
Collector Information	Reporting Information
Name: Jenny Smith	Name: Steve HSU
Dept. Branch: Mec Applied Environmental Sec	Dept./Branch: CDPH - RHB Ca Address: PO Box 99 - 7414 ms 7610
Address: 3000 Rod Hill Ave. Costa Mesa, C	Sacraniento co 96800
Telephone No.: <u>フェム - SSO - 42.58</u>	[relephone No.: 9116 - 440 - 7940
Sample Information	Epinud Agency
System Name / Facility: SONGS	☐ DWFOB() ☐ RHB ☐ RWQCB(→ ☐ DTSC ☐ DWTPB ☐ FDB ☐ DWR ☐ CDFG
Δ	© EMB
System No.:	
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Drinking Water ☐ Groundwater ☐ Water Treatment Plant (WT	Surface Water Distribution System Wastewater Point of Use (POU)
-	Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	Seawater Sludge (Semi-solid Samples)
Finishing:	Milk • Soil/Sediment
Starting:	☐ Wipes ☐ Biota (Type):
Net (M ³)	☐ Radon Canister ☐ Other:
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	
☐ Field Treatment: Preservatives added:	Voed/Frozen: Other:
☐ Field Measurement:mR/hr	☐ Radionuclide(s), if known:
Rush/Priority (should be prearranged and have supervisory at	
ANALYSIS REQUESTED (For questions, please call 510-620-29	
☐ Gross Alpha ☐ Gross B	
☐ Total Uranium ☐ Total Be	
☐ Total Radium ☐ Tritium	
☐ Radium-226 ☐ Carbon	
☐ Radium-228 ☐ Iodine-1	
☐ Radon-222 ☐ Strontiu	•
Other (Specify); Nickel-6	63 Q Iron-55
CHAIN OF CUSTODY	· · · · · · · · · · · · · · · · · · ·
Date Name (Print)	Date
-0901 - MBC	1700
Time Custody Received Organization 2.	Signature Time Custody Released
Date Name (Print)	Date
Time Custody Received Organization	Signature Time Custody Released
3 1 - 12 - 12	Signature Time Custody Released
Date Name (Print)	Date Date
Time Custody Received Organization	Signature Time Custody Released
LABORATORY REMARKS (Leave Blank)	OCMR/HR
A. Condition at Time of Receipt:	Q. Leaked in Transit Q Improper Container
☐ Holding Time Exceeded ☐ Sample Not Cooled	- D Insufficient Sample
B. Preservatives/Carriers:	
Added While Sampling	Not Added / D. Mot Annicobio